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ROYAL COMMISSION ON MATTERS OF HEALTH AND SAFETY
ARISING FROM THE USE OF ASBESTOS IN ONTARIO

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Mr. T. Hardy	Asbestos Information Association of North America
Miss L. Jolley	Ontario Federation of Labour
Mr. M. Edwards	Government of Ontario
Mr. D. Starkman	Asbestos Victims of Ontario

180 Dundas Street
Toronto, Ontario
Friday,
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VOLUME 37



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180 Dundas Street
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5 DR. DUPRE: Ladies and gentlemen, if I may bring this meeting to order, it's a very great pleasure this morning to greet four distinguished public servants from Sweden. I'll ask each to simply stand up as I introduce them.

Mr. Gunnar Daniellson, who is from ASV, the Swedish National Board for Occupational Health and Safety, and thank you, indeed, Mr. Daniellson.

10 His colleague from the same agency, Mr. Arne Westlin, and then from the Swedish Ministry of Labour, Mr. Lars Ettarp...Mr. Ettarp and Mr. Harold Linton.

15 Now, ladies and gentlemen, we are going to give the Commission this morning an opportunity to see how they have looked to you all summer by asking our visitors if they will kindly sit on the podium, after they have been sworn in, but may I say to all of you - Mr. Daniellson, Mr. Westlin, Mr. Ettarp, Mr. Linton - you are most warmly welcome here indeed.

Miss Kahn, would you swear in the witnesses, please.

HAROLD LINTON, AFFIRMED

20 LARS ETTARP, AFFIRMED

GUNNAR DANIELLSON, AFFIRMED

ARNE WESTLIN, AFFIRMED

EXAMINATION-IN-CHIEF OF THE AFOREMENTIONED PARTIES BY MR. LASKIN

25 Q. Mr. Daniellson, I wonder if...to help all of us... if I could ask you and each of your colleagues just to tell us very briefly what position you hold in your respective organizations, and just very briefly what you do, what your responsibilities are?

MR. DANIELLSON: A. Thank you.

Can we start, maybe, from the righthand?

Q. Sure. Mr. Westlin.

30 MR. WESTLIN: Well, the Agency in Stockholm is

MR. WESTLIN: (cont'd.) divided into three compartments, and I am the head of one of these compartments - the one which is called the supervision department, and that is the department that makes the proposals for regulations, that are later on handled by the Board, and Mr. Daniellson is the director of the Board, so he is informed at an early stage.

But the deciding party is then the Board, at a formal sitting. Before that is a distribution of the proposals to the members of the Board.

The work within our department consists of producing all the material that is available in the scientific literature amongst experts and amongst the labour market parties, and also at different firms that produce different products.

We regulate, of course, not only dangerous substances, but also more or less dangerous and useful machinery, and in every case there are these parties - the workers, labour, and the employers, the firms, the enterprises, and also, of course, the enterprises or the institutions who supply the goods, the substances or the equipment that we are trying to regulate...or the work processes.

In order to digest this material and also to out of that form some sort of recommendation, some information, publicity or maybe education sometimes, or in a number of cases, also regulations, rules or recommendations or some kind of another, we work at my department, which contains two hundred people, about one-third of them, perhaps, technicians, some medical people and also, of course, more administrative staff to help us with the other types of work.

We form a proposal and that we then discuss in committee work with the parties interested in the regulation in question - that is, labour, employers, supply firms, etc.,...and also experts, of course, of different kinds, from universities or from foreign countries - Canada, for instance, or Great Britain,

MR. WESTLIN: (cont'd.) Germany, the United States, etc.

5 That then leads to some sort of proposal and that is put at a written hearing to all the parties interested in the matters in question. They get three months to comment on the proposal, and in a second hearing, then, to the parties, we also send the paper, of course, to our Ministry for Foreign Affairs and Commerce, and it is also put on an international hearing which might bring, of course, points of value regarding the safety and health aspects of the proposed regulation and also, of course, other points of interest regarding the regulation - for instance, as regards its position in external trade from Sweden or into Sweden.

I think that will...

15 MR. DANIELLSON: Thank you. I could add to that only Mr. Westlin is not only an administrator, he is an expert civic engineer in chemistry.

20 Myself, as the director general, I am not expert in anything, I am a lawyer. I have a degree of law. I have been from the beginning a judge, after that being in the Ministry of Health and Social Affairs, working a lot of time with social security...now about twenty years, in fact, I've been working with legislation and administration in this field, and I will come back further on on our work.

25 I might have still some copies left of my administration, in English, to give representation on if somebody could be interested. I think you have that a bit earlier.

Thank you.

30 MR. ETTARP: My name is Lars Ettarp. I am head of the working environment department in the Ministry of Labour. I have a background in social science field, and I am dealing with safety and health, working hours, and co-determination or industrial democracy, and also occasionally rehabilitation, sheltered employment

MR. ETTARP: (cont'd.) and similar things.

I have worked in the field of labour market policies for many years before I was in my present position.

MR. LINTON: My name is Harold Linton, and I work in the environment department under Mr. Ettarp. I am a lawyer and I primarily work with cases on work environment which are appeal to the government, and I also work somewhat with a budget link to the work environment authorities.

MR. LASKIN: Thank you very much.

Perhaps I could just ask one of you to get the questioning and discussion started if you would just briefly outline to us, give us an overview of the regulation of occupational health and safety in your country.

You can bear in mind that we have probably...we have certainly read the materials in this brief, and hopefully have digested at least part of it.

MR. ETTARP: Could I probably say a few words about the administrative structure in Sweden?

MR. LASKIN: Sure.

MR. ETTARP: After that I'll give the floor to Mr. Daniellson.

Sweden has, by your standard, a very little labour market - four point two million people. We are heavily dependent on exporting - more than fifty percent of what we are producing is sold abroad.

We have an administrative structure which is a little bit different from most other countries, and we have a close co-operation between the social partners in Sweden. Eighty-five percent of all employees in Sweden belong to a union, even the white collar side. I myself belong to a union. Everyone in the ministry.

The social partners started in the forties with

MR. ETTARP: (cont'd.) a close co-operation in the field of occupational safety and health, and they have continued make arrangements so the work in the occupational safety and health field could be kicked out from the whole policy, so to say. I mean, we are trying to solve problems in the field of occupational safety and health on facts, not on politics, so the ministry of...my ministry has nothing to do with new regulations. It's an affair for Mr. Daniellson's board to do.

But in a single case, an employer or a union official could appeal to the government as a supreme tribunal. For the moment, for example, we have the single case that concerns us - asbestos. But it's not settled yet, but in a single case we can interfere in the work of the board.

But we are a very, we have very small ministries in Sweden. In the Ministry of Labour we are a hundred persons all together - nine persons dealing with occupational safety and health - so we are concentrating on political issues, not on the daily work.

I think you must remember that the social partners are represented on all levels, both in the regional boards which are governing the labour inspectorate, and in the board...the occupational safety and health board.

So you have a three-partner system on all levels, and that means that negotiations are going on on all levels, and when a decision about new standards or regulations finally are taken in the Board of Occupational Safety and Health, it has been prepared by the socialist partners and people from the board for a long time.

For the moment, as you probably have in Canada too, Sweden has not the best economy. We have a budget deficit of forty billion kronas, and so on.

So most of the boards in Sweden are not allowed to

MR. ETTARP: (cont'd.) accept new standards or regulations without permission from the government, because it may mean creating cost for the industry and for municipalities and county councils and similar bodies.

But there is one exception, and that is the Board of Occupational Safety and Health. It has still the right to take a final decision about new standards and safety regulations, and the reason for that is that the government, the opposition and the socialist partners still want to keep questions about occupational safety and health out from the health policies.

Thank you.

MR. LASKIN: So I take it that means if the Occupational Safety and Health Board sets a regulation, that regulation cannot be appealed to your ministry?

MR. ETTARP: No.

MR. LASKIN: Individual...

MR. ETTARP: Not regulations.

MR. LASKIN: Individual breaches of the regulation can?

MR. ETTARP: An employer, for example, can't sue the board in a common court as he can in the United States. So it's really a final decision taken by the board...but, we can interfere in a single case from the government side.

MR. LASKIN: If an inspector imposes a fine, or a penalty, that can be appealed?

MR. ETTARP: Yes. It can.

MR. LASKIN: Okay.

MR. DANIELLSON: Just a little remark - that the fine or penalty is not imposed by the inspector. Such cases, criminal cases, are left to the other courts, but that wouldn't be a citation. And it could be appealed to the board, and from

MR. DANIELLSON: (cont'd.) the board to the government, and the very interesting thing comes out of this - the government is forced to apply those regulations issued by the board when it is dealing with these cases.

MR. ETTARP: But I must add that the right for the board to take final decisions about new standards and regulations has been under debate because especially the industry says it creates costs. But there are no general opinions in favor of a change of the policy, but there are voices on the markets...

DR. DUPRE: If I could ask a question, counsel? Do I understand correctly that once ASV, or the board, sets a standard, the standard itself cannot be appealed to the government?

MR. ETTARP: No, no.

DR. DUPRE: Now, could a particular company appeal the question of whether or not that standard should be applied to that company?

MR. ETTARP: No, not really, but they can, for example, if an inspector says you have to change the machinery and you have to stop work, or so on, and you have to do it, for example, they can appeal finally to the government, and the government has the right to change or give them more time or give them exemptions, and so on.

DR. DUPRE: So essentially the only thing that could be appealed by a company would be a particular work practice or engineering protection that would be ordered by an inspector?

MR. ETTARP: Yes.

DR. DUPRE: Thank you.

MR. LASKIN: What...suppose a particular company - take the Asbestos Ordinance for an example - suppose a particular company applies for a permit to allow it to use asbestos under your provisions for repair or maintenance, and suppose the labour

MR. LASKIN: (cont'd.) inspectorate says, no, you can't have that permit. Does the company have a right of appeal?

MR. DANIELLSON: Yes, they can appeal in that case from the labour inspectorate to the board, and from the board to the...and if I could add to your question, you cannot question the applicability as such of the regulation, but you can question the application in the single case.

Maybe I could continue...

MR. LASKIN: Yes, sure, Mr. Daniellson.

MR. DANIELLSON: ...and, I guess, follow up what other people have said. This board is autonomous in all these cases, and you said they have been questioned if it might be all right to ease a regulation because of the cost. Maybe I'm feeling not so much industry as municipals and counties, the public, and also the state as an employer, though maybe they are more anxious about the problem, and it also may be that we are autonomous, that the director general and the deputy director general are only appointed for six years, so the minister can fire me every six years. He has at least one opportunity at that in two years.

But also, the members of the direction deciding upon a regulation, it contains representatives for the labour market parties, employees and also two members of parliament. They are appointed by the government for three years each time, but in fact the government appoints those representatives for labour market parties who are brought to the government by the labour market parties, so there is a real input from the labour market.

MR. ETTARP: And of course they can't do much for the budget, because we are handling all budget affairs and every year we can interfere and change the possibilities for Mr. Daniellson to work on the field now.

MR. DANIELLSON: What we do with a money we

MR. DANIELLSON: (cont'd.) decide ourselves, and we always do the best with the money.

5 In fact maybe I would continue a little with the broad overview over the legislation as such. In fact, we started with legislation in Sweden only in 1890, with the first labour inspection at that time, too. There have been revisions of legislation several times from then, and the last revision was 1968. In this red booklet...I have only two copies of them left and maybe some have got them before, I don't have them here...maybe you have more than that?

MR. LASKIN: Yes, I do.

MR. DANIELLSON: It's an English version, and this legislation is effective today. I will say a few words about the main feature in this legislation.

15 One feature is that this legislation covers every kind of occupational activity - all activities, civil servants, municipalities, industry, of course, trade, also schools, universities...not only the teachers, but also the pupils from the age of fourteen, are covered in some way by this legislation... the armed forces are covered too, but don't become an enemy.

20 And it could be some exceptions, of course, an exception in time. But it is a very broad approach, and also self-employed are covered as far as, for instance, technical devices are concerned, and also as far as chemical substances are concerned. This is a very broad approach, and we have no special legislation in the basics for different branches, and no special inspection for mines and like that. We have a general labour inspection. That means that under this Occupational Health Board we have nineteen labour inspection districts, but in every district we have...they are covering all kinds of activities. Of course, the inspectors could be more or less specialized, but in fact in this district have to deal with all kinds of problems.

MR. DANIELLSON: (cont'd.) Let me give you a number - we are all together about fifteen hundred persons working in this administration, the national board and labour inspection, and it should be added that in the national board where we find about half the number - about seven hundred, something like that - we also have...we are not all of us administrators or not all of us lawyers, of course. The department in fact responsible for regulation and for guidelines for the inspectors is the supervision department that is headed by Mr. Westlin. It has about two hundred persons.

One prominent part of our job is also research. We have a built-in research institute in our organization. If you have the pamphlet you will find in the middle the Occupational Health Department, with also one branch not only in Solna, you will find the name not outside, but inside Stockholm, in fact, and also a branch in the north of Sweden. The former was an autonomous occupational health institute, but was integrated in the board in 1972.

I am not so familiar with the Canadian organization and it's a little more difficult to compare than with the United States . But in the States, think of OSHA and NIOSH. You will find that the National Board of Occupational Safety and Health is OSHA and NIOSH in one, maybe weaker, but it is just to make comparison.

I also will say a few words about the legislation. Very much is left to the labour market parties, also on the local level. You have a very strong safety organization within the plants. We have safety committees, and you will find it in the text, we have safety delegates in all plants with more than five employees.....safety delegates and we also have special regional safety delegates appointed by the union, who can interfere in the very small plants with only one, or two or three employees

5 MR. DANIELLSON: (cont'd.) and act as safety delegates. And those safety delegates have rather great powers. That means that they can interfere and hold a job when they find something very hazardous for a moment, but only pending the intervention of a labour inspection. The labour inspector always can take over, hopefully immediately, and decide whether there will be a stop or not.

I will stop there.

10 MR. LASKIN: Is it only the safety delegate who can order a stoppage of work? Can an individual employee refuse to work?

MR. DANIELLSON: Yes, he can himself. When himself is in danger, he has the right to stop working.

MR. LASKIN: Himself?

15 MR. DANIELLSON: Yes, himself.

MR. LASKIN: And he doesn't have to go through his safety delegate? He can do it all by himself?

20 MR. DANIELLSON: If himself is in immediate danger, he can halt, stop working himself. But the normal course, and this is something we are very anxious to stress, it must also be something of a duty, you should continue when you in fact are in a danger that you can't manage. But there is no legal penalty on him if he doesn't, of course. But he has his own safety to think of.

25 MR. LASKIN: How often...I mean, how often does a safety delegate in Sweden, generally speaking, generally exercise that right?

30 MR. DANIELLSON: We have statistics that cases brought to labour inspection, that would mean that they have been questioned by the employers, is about a hundred a year or something like that. But you have many cases, certainly, where the safety delegates halt the job and the employers accept this.

MR. DANIELLSON: (cont'd.) It might be he is grateful for something like that to happen, and we have no statistics on that.

5 But I think very much we try and our policy is that you shall in good time discuss health with your employer and supervisors and foremen and so on, to avoid such a situation.

MR. ETTARP: You could probably add, when we were going to introduce the new Act, we had a debate about misuse, that there has been very little of misuse.

10 MR. LASKIN: Has the right of the safety delegate to stop work been generally exercised with respect to safety matters as opposed to occupational health matters? I mean, have you had the right exercised in relation to hazardous substances?

MR. DANIELLSON: It has been exercised in some cases, of course, and if there has been any problem in such cases, it is difficult for the delegate to decide whether it is dangerous or not. If he reads headlines, this can give cancer, and he said, oh, there must be immediately a danger.

15 But there are very few such cases. I think most of the problem is when these problems are based on psychosocial factors, as we say. Psychological, you are saying you are afraid because something would happen - violence, for instance, is a typical example - that would be the most difficult cases. But I think and I would stress that there was some we would feel were being abused, but I think there's very few cases because, of course, very much unions are very anxious also to give training, we are paying a lot of attention in giving training to safety delegates so that they should really know how they should act.

25 Also, you must always bear in mind that this is also a temporary stop. You have to go to the labour inspection, always the labour inspection take over.

30 MR. LASKIN: What about asbestos? Do you know of any instances where safety delegates have exercised that right

MR. LASKIN: (cont'd.) in respect of asbestos?

MR. WESTLIN: Yes, certainly. I can't specify
5 any cases now. I don't remember the single cases, but certainly
there have been such cases.

MR. DANIELLSON: I think quite a few. This new
right came into 1974, and we just this asbestos discussion at
the heaviest about 1975 or 1976. So there could have been some
cases, but I think in such...I have also in my mind especially
10 that we have been in discussion, but I think also the employers,
who are very anxious with those cases to find a solution, to
discuss and so on with the safety committees and...I mean, not
so much of asbestos in Sweden.

MR. LASKIN: Where there is a safety committee in
15 a plant, does the safety delegate sit on the safety committee?

MR. DANIELLSON: Generally one safety delegate
would sit in the safety committees. They are appointed by the
management and the unions. It's not indicated in the Act how
they would be implemented, or the number, but there are agreements
20 between the social partners and the majority is given to the
workers. But it is said that there ought to be a safety delegate,
and also ought to be some on a responsible level of management.

MR. LASKIN: What's the division of responsibility
in the workplace between safety delegates and safety committees?

MR. DANIELLSON: I would think the safety
25 committees would be with planning, with more broad lines how to
organize the work and so on, and not leave...beforehand, it is
very important to sit beforehand and discuss matters coming up.

The safety delegate, of course, to do also with
all those things to some extent, that he is more to supervise
the daily work, so to say, to be active and see to it that there
30 is nothing new happening and that both the workers and management
are following the regulation and taking other safety measures.

MR. LASKIN: So that the safety committee, do I take it that it would get involved, for example, if the company wanted to start a new plant or a new building?

MR. DANIELLSON: Very much so.

MR. LASKIN: It would have to be consulted beforehand?

MR. DANIELLSON: Yes, and also the labour inspector is to be consulted beforehand when you have to start a new plant or you will have to make big changes in your production or in the plant.

MR. LASKIN: I see. And did I read the legislation correctly that the safety committee has decision-making power if it's unanimous?

MR. DANIELLSON: No.

MR. LASKIN: No?

MR. DANIELLSON: In fact, it can decide with a majority, but the problem is what can they really decide upon, what is the numbers, so to say. They have not the power to decide you should or you shouldn't start this activity. They can, yes, give their opinion to management. Only in one case they have to make re-decisions. If some amount in the budget is left to the safety committee for decision, as so it is in many big plants, for instance the Volvo plant gives every year a sum to be used just for safety measurements, besides, of course, all the other measures taken, then they have to be decided upon by this committee. In fact, in such cases if the majority is left to the workers, they could decide those things.

MR. LASKIN: So if the company gives them a certain amount of budget for their operations, they can decide by majority how to use that budget?

MR. DANIELLSON: Exactly.

MR. LASKIN: But in all other cases, unless they

MR. LASKIN: (cont'd.) are unanimous, they are giving advice?

5 MR. DANIELLSON: In fact I think in most...it depends very much what you want to do if it is left to the enterprise, to the plant, to decide. And in fact, of course, if you agree between social partners with the safety committee, something is to be brought through.

10 I had one discussion once at the beginning with a head of a military body...I wouldn't say what...and he said, I'm sitting in this committee and there I am to take in favour of health, but I...we are agreed. But after that I go back to my chair and my business on Monday, and they said you cannot do that. But I don't think it is happening today. I think what we really are aiming at, to get this understanding, to listen to
15 the workers and listen to what they want to do. They had to discuss with management what can we do and what would we be doing the best way.

In fact, it's working that way. Of course, if you represented the trade unions, you could say that it is too, they are too weak and so on, but we have not so very much
20 discussion going on. To a great extent, of course, the measurements taken by the safety committee are based on, for instance, regulations that we issue. They have to follow these regulations and apply...management has to follow these regulations and try to apply them.

25 MR. LASKIN: What was the thinking behind giving a majority of members from labour?

30 MR. DANIELLSON: It was agreement between the social partners, and as you know, one thing is quite clear, we in authority - government, we co-operate with social partners in administration and so on. But besides this, the social partners had to decide themselves about some things and I think that this is what is coming out of bargaining, it might be that

MR. DANIELLSON: (cont'd.) you mean we would leave this to the workers, this about their health, about their safety, and this is why they should decide.

Of course, we have a discussion going on also in Sweden that workers always should decide about their health, but we haven't made such a solution. I think that is what is behind.

MR. LASKIN: And are there similar training programs for the members of the safety committee that there are for safety delegates?

MR. DANIELLSON: To some extent. We have some programs arranged for both safety delegates, foremen, supervisors, and also safety delegates. It might be some difference, to have different tasks.

MR. LASKIN: Does the board organize that training?

MR. DANIELLSON: No, the social partners make themselves. We organize in our administration the training of occupational health services. That means occupational health doctors, safety engineers, safety nurses and so on, but not these persons working directly in industry and production.

MR. LASKIN: And those members of the committee, they get their normal wages and salary benefits while they are on training?

MR. DANIELLSON: Yes. And it's very standard to stress that also the safety delegates, they have guaranteed in this Act that they can use the time they need for their work and without any deduction of wages...so to say, work in the daytime, in working time...

MR. LASKIN: Who pays for the training?

MR. DANIELLSON: Yes, also for the training, the employer has to pay for the wages in a normal way and besides they are subsidized, given via the Sweden Working Environment Fund. We have a special work environment Fund who have to get

5 MR. DANIELLSON: (cont'd.) a lot of money every year through contributions from the employers. It's based on the wages, and this Work Environment Fund has a great amount to spend on reserve training and information, and in fact with this fund the training materials and also the courses are paid.

10 DR. DUPRE: Could I...on the training...just ask you, could you explain to me a little bit what is the role of the Joint Industrial Safety Council, in training, as distinct from the role of the Work Environment Fund?

15 MR. DANIELLSON: Okay. The Joint Safety Council is a voluntary organization consisting of the labour market parties on both sides in the industrial sector, and they have to deal firsthand with training and education. They have to discuss principles for training. They also have to produce training materials, courses and so on. They get the money from Work Environment Fund, in fact, but they are decided upon in single cases and have to favor just education and training. They don't arrange themselves for many courses, but they are more a supervising, a policy-making body.

20 DR. DUPRE: So the Joint Industrial Safety Council deals with principles of training?

MR. DANIELLSON: Yes.

DR. DUPRE: And it produces course material?

MR. DANIELLSON: Yes.

25 DR. DUPRE: And in these activities it is funded by the Workers Environment Fund, correct?

MR. DANIELLSON: Yes, to a very great extent. Almost a hundred percent, I would like to say.

DR. DUPRE: Now, when it comes to actually giving the courses, who is responsible for that?

30 MR. DANIELLSON: It could be, for instance, the employer, big companies could have these courses and often

5 MR. DANIELLSON: (cont'd.) organize them. Most of them are recommended to be studied. That would mean they would make at workplaces, or in this case, that you can tackle some problem during the training. In other cases we have to bring together different people from different enterprises, for instance, then the training associations, I would call them, run by the trade unions - both the blue collar, white collar - are normally formally the hosts of these courses. They get the money from the Work Environment Fund.

10 There is close co-operation between the social partners, or the principles are decided upon by the joint committee. For instance, it could be almost arranged besides. For instance the civil servants have a special committee besides that put out a lot of news briefs.

15 DR. DUPRE: May I, Mr. Daniellson, ask you about one of the papers here that would be in tab eight of your document? If you have tab eight, this is the document from the Swedish Trade Union Confederation.

20 Now, if you turn to page nine of that document, the last paragraph on page nine, in the last paragraph on page nine the union is calling on your board to prepare a training and information program. Now, does this mean that your board also prepares courses?

MR. DANIELLSON: Excuse me?

25 DR. DUPRE: Does this mean that your board also has a role in preparing training courses?

30 MR. DANIELLSON: Yes, as we mention here, the group mentioned here, factory inspectors, in there is the medical officer who prepares this, and safety engineers. Factory inspector I think in this case means, in fact, the labour inspectors, and they will make also the course. We have a lot of training programs.

You will find in this pamphlet our building is

MR. DANIELLSON: (cont'd.) ...a big part of this is used for training. I can say we can have at the same time about four hundred people at the same time.

We already are preparing these courses that I mentioned before.

Members of management, safety stewards and employees, we have a very broad approach in this annual declaration, and of course much of the material we are producing as information and so on is used in these courses, and we also have, I think to mention it, some courses also for specialized safety delegations, for more qualified. In fact, the trade unions would like us to arrange more courses for those, but it is a question of resources.

So in that way we have some, also, training and training programs. I must confess I don't read this very thoroughly before, but it could be an answer. This is a document by LO, and of course we have also LO members in our board so we can continue our discussion there.

DR. DUPRE: So if I understand correctly, the Joint Industrial Safety Council has responsibilities for preparing educational materials and for dealing with educational principles?

MR. DANIELLSON: Yes.

DR. DUPRE: Your board, however, can also...also has a responsibility in preparing course materials. Is that correct?

MR. DANIELLSON: Yes, it can. Of course, it depends very much what you mean with the word 'responsibility'. There are no legal responsibilities for, say, joint committees. They are voluntary. But in fact they make so, and we also make the same, and I also would add when the Joint Occupational Safety Committee prepares their training material, experts at our board take part in preparing them because they are the

MR. DANIELLSON: (cont'd.) essential experts, some of the essential expertise.

DR. DUPRE: Now, the Joint Industrial...

MR. DANIELLSON: Perhaps one thing. It is also a principle question. I think not only the Joint Safety Committee, but the social partners themselves may prepare the papers. They may have that interpretation, maybe, of how they would train their people, and one of the principal things behind this is that I think very often in training it was the same at normal Sweden schools, the government doesn't recognize the training material and so on. It is left in some way to the market, and in this case the market is also the trade unions, and they may introduce also, to a very great extent, material for the trainer, for instance, the safety delegate.

Once again, they get money from the Work Environment Fund who also gives money to trade unions and also to employers' associations.

MR. ETTARP: You have similar councils in the public sector, I must repeat that, and we have a very big public sector in Sweden, as someone said.

So you must remember this is only one body. We have many similar bodies.

DR. DUPRE: I'm going to use the word mission instead of the word responsibility. Do I take it from what you have been telling us that a large number of actors have a mission, or consider themselves as having a mission in training - the Joint Industrial Safety Council, the board, local employers and unions and so on?

MR. DANIELLSON: But, wait. I will add one thing. As far as occupational health services personnel, safety engineers, health doctors and so on, the board has a responsibility. It's a decision made by parliament ten years ago that we should

MR. DANIELLSON: (cont'd.) arrange this kind of training. So there we have a responsibility. You see, it is not left to the universities or academics or technologists. We have this responsibility.

It is discussed just now. We have always commissions going on in Sweden, and not Royal Commissions we'll say anymore, just State Commission, and for instance myself, just heading such a state commission on occupational health services, is expected to leave his report in half a year. We hope so, we hope so....we would test the occupational health services and set laws of legal training...from occupational health services.

DR. DUPRE: Just one question about the Work Environment Fund. This fund is financed entirely by a levy on employers, is that correct?

MR. DANIELLSON: Yes, yes.

DR. DUPRE: But the fund is managed by a board that involves equal representation from employers and employees, is that correct?

MR. DANIELLSON: Yes. Then they also have representation for administration. I served as a vice-president.

DR. DUPRE: So it is a tri-partheid...

MR. DANIELLSON: Yes, to some extent, but I'm the only representative representing one of the parties - and the big one, of course. And the president is appointed separately by the government, but the other, both sides, are yes, the names are forwarded by the labour market parties and equally, but you have to add these two suspect persons, the president and the vice-president.

DR. MUSTARD: Can I ask a question? Was that set up that way or was it originally a fund controlled by the employers who subsequently had a joint partnership?

5 MR. DANIELLSON: It was originally set up in 1972. At that time, yes, these matters were limited to heads of social affairs. And it was just unanimously decided upon, both social partners agreed upon this, that you in some way would create resources for research, training and so on.

10 You can say, in fact, as far as training information is concerned, instead of financing directly by enterprises, you would try to finance this way. Of course, this big money has been a tremendous help to research in occupational health, and in fact my research department allot also money for special projects from this Work Environment Fund.

15 In fact, I have to my disposal ten million Swedish crowns a year to decide upon myself, as director general for special projects, that we find very urgent, to not wait too long.

DR. DUPRE: Let me see if I understand. Your board itself may receive monies from the Work Environment Fund?

MR. DANIELLSON: Yes, through the government who has to decide how much every year.

MR. WESTLIN: For specified projects.

20 MR. DANIELLSON: For specified...we have not specified projects, we have specified ourselves to get a lump sum every year, around ten millions.

25 And besides this, of course, the professors and other people at our research department can go directly to the Work Environment Fund and ask that they will have this or that project, give me the money, and we get some millions of crowns a year this way, too.

30 But ten millions, I will stress, they are not only for our scientists in our administration. We can give money to people at universities, some other way, if needed, or for some other special project. For instance, supervising city courses. We had a big project going on for some years with special

MR. DANIELLSON: (cont'd.) people.

5 DR. DUPRE: If I could just understand one thing. If I think of the budget of your board as being made up in part of an appropriation directly from the government, and in part of a contribution from the Workers Environment Fund, what would be the percentage of the contribution from the Workers Environment Fund?

10 MR. DANIELLSON: It is five percent Work Environment Fund.

MR. ETTARP: Roughly five percent.

DR. DUPRE: Excuse me, counsel.

MR. DANIELLSON: Five percent good money.

15 MR. ETTARP: But the fund can today also give money for research in the field of industrial democracy.

MR. LASKIN: The fund is for training, research, information? It has nothing to do with compensating employees...

MR. DANIELLSON: No, no.

MR. LASKIN: Nothing to do with that.

20 This system of safety delegates and safety committees and so on, does it apply to construction sites as well?

MR. DANIELLSON: Yes.

MR. LASKIN: We call them nonfixed-place work sites. That whole system applies?

MR. DANIELLSON: Yes.

25 MR. LASKIN: And what is your sense of how well it is working in construction sites?

MR. DANIELLSON: Maybe I would leave it on, best leave it required far too long, and you would be able to (unintelligible.) One thing, I'm sorry the construction grant today is very weak in Sweden, because of the bad times, perhaps.

30 MR. WESTLIN: Well, it works in that field and I think it works extremely well in that field, considering all

5 MR. WESTLIN: (cont'd.) the difficulties that
are connected with nonfixed workplaces. They have a special
organization which is called the Construction Health Organization,
which has a central body with a couple of doctors and I don't
know how many regional offices - I think around ten - and at
each regional office there is at least one doctor, sometimes two
doctors, and one hygienist, and there are of course also safety
engineers. It is left to the enterprises in the industry to
10 pay a member fee to this Construction Health Organization, or
not to do it, and most of the big ones, at least, are members,
and that way they can get a very effective support for their
normal activities in the field.

15 There are then at different specialized firms
firm-connected safety engineers also, that work together with
this general organization.

Even if the Swedish construction industry at the
moment is fairly weak, it's still a fairly important industry
in Sweden and as you may know, they are also doing a lot of work
abroad, for instance. Our biggest company, Skonska (phonetic)
has votes on the company in the United States and are trying
20 to come into that market.

They work, of course, with economics and with
hygiene and with safety, and the question of asbestos of course
has been a rather important question for them, and also they
have done a lot of research within this organization - for
25 instance, covering the problems with mineral fibers - and they
take all the people in regularly for medical surveillance, and
they do, from the construction health side, also regular visits
to all the plants and, so to speak, inspect them, and they work
very closely also with our factory inspectors.

30 MR. LASKIN: So, let's just take a specific example
in the asbestos field. If we talk about some kind of asbestos
repair or removal program at a building, I take it you have such

MR. LASKIN: (cont'd.) matters that might occur in some public building where you want to deal with an asbestos problem?

MR. WESTLIN: Mmm-hmm.

MR. LASKIN: Then do we have this whole...we have this whole structure in place, then, where you have a safety delegate, safety committees?

MR. WESTLIN: Mmm-hmm.

MR. LASKIN: How do they interact on a construction site? I mean, when you've got a lot of different trades, how does the safety committee come together and how does a safety delegate get appointed?

MR. WESTLIN: Well, the safety delegate, of course, has available our instructions and our codes and our regulations, and he will look after it that the work is carried out the way that is provided in our regulations. And if that is okay, then everything goes. If it is not, he might take it up with his foreman at the site and they will discuss it and maybe have some additional measures done. And if they are not agreed upon the matter, they will call for the labour inspectorate...or they will, may see them as the first stage to call upon some expert at the Construction Health Organization to help them evaluate the situation.

They have hygienists that also, if necessary, make the necessary measurements and control the environment. They have...they can take dust samples and they can analyze them, they have optical microscopes and electron microscopy. As you know, the standard is for optical microscopy, but they are quite able to evaluate the situation.

As a matter of fact once they were very thoroughly... a very thorough inspection...once we had to isolate one of our nuclear reactors with asbestos-containing materials, and it was

MR. WESTLIN: (cont'd.) very thoroughly controlled by the Construction Health Organization.

5 MR. LASKIN: Is that an employer/employee organization?

MR. WESTLIN: It has a board which is run the ordinary way, with partnership between employers and employees, but it's financed also in the usual way, by the employers.

10 MR. LASKIN: I see. And how does it interact with the labour inspectorate?

MR. WESTLIN: Well, these are experts, principally they are experts that give advice to the local firms that are affiliated to the company, but they have a greater influence in that they tend to also give...the firms are fairly strongly dependent upon their advice, so partly maybe, although informally, 15 they might take over some of the responsibility of the employer at the...

MR. LASKIN: Does the...

20 MR. WESTLIN: Of course, they are very, very eager and anxious to have the support of the inspectorate and the board. They are aware of...that they are not an agency or administration, public administration, so they act in close co-operation with the factory inspectorate...as do most of our occupational health services, whether they are independent organizations as in this case, or also single firms.

25 MR. LASKIN: So that the labour inspectorate would also make use of this Construction Health Organization?

MR. WESTLIN: Yes.

MR. LASKIN: Do the labour inspectors tend to be specialists in safety or industrial hygiene, or do you have a combination?

30 MR. WESTLIN: Well, some of the inspectors, of course, have a good education and experience in both fields, but in principle we have a special inspectorate who are trained in

MR. WESTLIN: (cont'd.) occupational health, and are more trained and suitable for carrying on investigations, studies, or measurements - control measurements.

We are very eager, of course, not to make these measurements too over-studied, so to speak, to make them too thorough, which is, of course, a difficult measure to know when it's just suitable or not...because the control, the thorough measurement is either a business for the enterprise that should be carried out in principle by the enterprise and paid for by the enterprise. The responsibility for controlling the measurement and controlling the environment is by the employer - according to our standards - but it is costly.

So it is not our intention to take over that responsibility through activity from the agency which would cover all the counting that we do, or to, so to speak, socialize the controls. That is not our intention.

And on the other hand, if you want to have very thorough measurement as part of research, of research studies, then it's a matter for the universities or the medical centers or something, so we are somewhere in between.

MR. DANIELLSON: Let me add a few...you mentioned the occupational service, mentioned this once again...maybe I say a few words here to explain. You have spoken about safety committees and so on at the enterprises, you have spoken about labour inspection...in fact you state the inspector may have some municipalities and smaller workplaces, they are hoping that they will be transferred to the state.

We have also in Sweden medical services, medical care. It's guaranteed...every resident in Sweden, regardless of nationality, they can get free care at the hospital, and they can get outpatient consultations at a low rate.

But besides this we have Occupational Health Services.

5 MR. DANIELLSON: (cont'd.) That means in fact medical and hygienic services run by labour market parties, in fact, mostly. And you have to first work with prevention. This Occupational Health Service that you mention in the construction industry is one covering all the country, but besides this we have the other big companies in occupational health services, and we have also a lot of occupational health centers. That would mean a number of enterprises go in to gether, maybe 10 two or three or four towns would go together and form such an occupational health services.

15 They are somewhat autonomous from the employer and the enterprises. They have to act as experts, but they are financed to the greatest extent by the employer, to some extent by social insurance, as far as they give medical care.

MR. LASKIN: Can we talk a little bit about asbestos in your Asbestos Ordinance, and perhaps, Mr. Westlin, you might just give us an overview on what the standard-setting approach has been in respect of asbestos.

20 MR. WESTLIN: Well, as you know, the hazards with asbestos were, on a practical scale, first encountered in the U.K., I suppose, especially in the twenties, and the first regulations really came in the U.K. in the beginning of the thirties. These were not very much observed in Sweden, because we had very little use of asbestos at that time. So the first cases of asbestosis were detected in Sweden in the shipbuilding industry in the 25 beginning of the fifties, by Dr. Alpo (phonetic).

30 As you know, it takes some time to take to you some information, and it also takes time to make regulations, and as a matter of fact in this case it took quite a number of years and it was not until 1954 that we made our first asbestos regulation.

Of course, the basis of that regulation was almost

5 MR. WESTLIN: (cont'd.) exclusively to avoid asbestosis. But there was a recommendation already in that regulation that wherever possible you should try to avoid the use of asbestos. That was put forward as a recommendation. And the same thought has been proclaimed very often, as you know, in national and international documents.

10 We started a big investigation covering the whole country in the late sixties, and results were beginning to come forward in the beginning of the seventies, and one doctor in Sweden, Dr. Englund (phonetic) made a cancer study, rather a broad study, and he found that there was a very peculiar concentration of asbestos cases in a small town in Sweden named Shoalhead (phonetic), and that was presented at the conference where there were both labour representatives and employer representatives present, in the beginning of the 15 seventies. I don't remember the year. It might have been 1971 or something like that.

20 But he didn't know then where they were located. He did know the town or the city, but not the enterprise.

25 Well, that survey was proceeded and the results were reported in 1974, I think, in the summer of 1974, and we had at that time begun the work of revising our 1964 regulation of asbestos, so we were awaiting the results of this previous big survey before we finished our regulation, and we had the results and they showed us that in many cases the dust exposure of workers was fairly high - in many instances.

30 Amongst other things, it was fairly high in the construction industry and in some locomotive production.

The report from the big survey came in the summer of 1974, I think, and the regulation was then finished in the end of 1974 and the first part of 1975.

There we had strengthened the general provision,

5 MR. WESTLIN: (cont'd.) the general policy as regards asbestos, from being rather a noncommittal recommendation in 1964, to a more strict advice thing. It's put forward in the terms of 'it shall', but the art of the regulation, of the rule, was still not obligatory, was not committed to industry. It was still a sort of advice, but could be enforced by the labour inspector that wherever there was a less harmful substance available to be exchanged for asbestos, you should make such an exchange.

10 So that is where we started to try harder to diminish the hazards with asbestos. That new regulation was then taken by our board in the early summer of 1975. At the same time, Dr. Englund has got forward with his work and he has been able to pin down these cases he had of mesothelioma in the small town of Shoalhead to a specific company, and it was shown that a number of cases...I don't know the number, maybe six or eight cases...were from one and the same firm, and this was also able to make it clear that they had all worked with locomotive production in insulating the fire department of the engine with asbestos, and it was also fairly certain that they had used a lot of blue asbestos.

15 So that brought the mesothelioma question into focus. Now, at this time...in August, I think, 1975...the new and more strict and stringent regulation was already taken by the board, but it was in printing, it was not available for the public as yet. But, of course, to the public it seemed that when the regulation then came forward in September of 1975, it seemed that well, now they have made a regulation since they have found out that there were mesothelioma cases due to asbestos, which was then a reverted timetable due to the time necessary to print it.

20 But anyhow, we have exactly the same policy already

MR. WESTLIN: (cont'd.) in that onus, then, of 1975. We made it clear that it was a sort of strong recommendation that you should avoid using asbestos where you really could see that there was a less harmful alternative.

But in order to make it more clear, where it...where this general condition or provision should be applied...as time went on we published a number of regulations just to pinpoint down the specific field where we thought this was true - that you could use something else instead of asbestos, and we made a number of publications specifying that - that in this case you could exchange the asbestos for something else.

Now that, then, in the realm of time went up to quite a number of enumerations of examples where asbestos could be exchanged, so when we started around 1978 or something to...1978, yes...to make a new ordinance concerning asbestos, which was due, amongst other things, to the fact that we got a new law in 1978 and the regulation then had to stand on another ground, on another legal ground. It would be based upon the new law.

So then we talked about it and came to the conclusion that instead of having general permission for the use of asbestos, let alone that we recommended that you should not use it, but it was nevertheless generally not prohibited, we came to the conclusion that it would be a safer way if you had...if you went the other way around - you take as a primary condition that it is not allowed, and instead you specify in general terms, if possible, the fields where it is allowed - on certain conditions, of course...that you avoid emission of dust, or that even if you have some emission you in any case keep exposure below certain levels.

So that is the new attitude. Of course, that might lead to the same type of final result. You may still

MR. WESTLIN: (cont'd.) find the same fields...I am speaking of technical...you can, of course, draw the consequences of each regulation in one direction or the other, but technically you could, with both methods, end up with the same final results if the exemptions we make now with..starting with the prohibition...are the same fields which are not specified as the prohibition fields with the other system.

The advantage we thought we would gain with the new provision is that no one could say well, this new work process that I apply, that is not explicitly prohibited in your regulation. And it would, generally speaking, lead to a more stringent and better-controlled situations because before we give any permit to any work methods, any use of asbestos or asbestos products, we can be convinced...and the employers and the employees can be convinced...that this work method, this use, has been discussed at the national board level and there has been a control measurement made, that however you use this method it would not lead to dangerous emissions.

It might lead, from our point of view, of course, maybe, to a more tough work for the administration. It might need, perhaps, more paperwork, but we don't think so. We think it will not lead to that possibility.

I should like to add, also, one point of view to this. We hope in this case, as in other cases, of course, to work in close co-operation with industry - to both material-supplying firms and enterprises - and even if there is not the possibility, as has been mentioned before, to turn over the regulation and change it by applying to government or a court or something like that, the tradition in Sweden is that you can nevertheless always start a new discussion with the board itself. We are always willing to listen and, of course, if we can be convinced that there is something wrong with the asbestos

5 MR. WESTLIN: (cont'd.) regulation, as an example only, or with any regulation...in principle, I am speaking in principle...there is...we are, of course, prepared and we are willing and we also find it an effective way of having a good environment that then we change the regulation. That is one of the advantages, I should think, of this system, that you don't have to go all the way to courts and government and everything just to make it more flexible and effective, and we have a fast procedure.

10 So that's where we stand at the moment. There are details in this, of course, but I hope I have given you a...

MR. LASKIN: Yes, you have very well.

Was there a limit value in 1964?

MR. WESTLIN: No.

15 MR. LASKIN: No? 1974?

MR. WESTLIN: The 1975 regulation had a limit value of two fibers, and that has been changed in 1976 to one fiber, and at the same time we...

MR. LASKIN: Banned crocidolite?

MR. WESTLIN: Banned crocidolite.

20 MR. LASKIN: Okay. And the one fiber applies to chrysotile and amosite?

MR. WESTLIN: Yes, and we are a little bit...at least I am personally...a little bit worried about amosite. I think we will consider that.

25 MR. LASKIN: You are considering...do you have any...are you using amosite in Sweden right now?

MR. WESTLIN: Not very much, but nevertheless you can never feel sure whether it will not come in somewhere. I think it would be good to have separate amosite values, but that is my personal point of view.

30 Of course, we had some other asbestos in Sweden, in the Swedish mines, of course, as in mines in many places in

MR. WESTLIN: (cont'd.) the world, there are some fibers of asbestos and maybe also other asbestiform minerals, and we know we have some anthophyllite and we have some tremolite, but we have controlled these minings and there is very little asbestos in Swedish mines as a mineral, and there is some asbestos dust and the levels...we just try to get a little bit better information now, but the information that we have from the investigations that have been completed is that the exposure is about or below point five fibers.

MR. LASKIN: Last summer we had Mr. Nicholson testify before us, and as I recall he produced in evidence a document which I believe was prepared for your board or your ministry, which he called a criteria document. What role, if any, did that document play in your standard-setting process, your approach to asbestos regulation?

MR. WESTLIN: Well, it was part of the documentation that we used and considered when we decided upon the regulation...part of the medical background...and we came to the conclusion due to the material presented to us that...the conclusion which many people have come to...that it was very wise to keep exposure as low as possible. That was a very sound conclusion, and we found that what was possible in Sweden, considering the possibilities of controls and hygiene control measurements, etc., etc., and the possibilities of technical controls, technical measurements, that was one fiber or below. And we didn't feel that it was very meaningful to put forward at that time a lower level of exposure because it couldn't be safely controlled. It would only land us in a mess of measurements that would be...that could not be safely analyzed.

But maybe today we have some better possibilities. So I want to stress that the document, the main part of the document, of course, deals with other conditions than merely the

MR. WESTLIN: (cont'd.) exposure limit control, but as far as that regard, the medical side of it, of course we were impressed by Dr. Nicholson's document, but we also considered information from many other sources.

There was another document presented by Peter Ems and Christopher Wagner from the Penarth Clinic in Wales, as you know, and of course we also tried to take into account the complete literature as far as we were able to do that, and we of course took advice from our own doctors in Sweden.

They prepared a final document...our Swedish experts...and I would like to mention to you that we have a particular, a special criteria committee which is...which we have formed, with the specific purpose of making the final criteria document on which our standards, hygienic standards, are based. They did so, in this case, also for asbestos, and as I was in a great hurry when leaving Stockholm for America this time, I haven't brought that document with me. But I have here a preprint of the document which that committee made, and I will be glad to...

MR. LASKIN: Could you make that available to us?

MR. WESTLIN: Yes, I can have that available to you... just to show the principle of how it works.

There they evaluate the Nicholson document, of course, and also the other document, and of course there is much discussion about this also in that group before they write a paper like this, and we have then to, of course, take this especially in account. And that has to do with the composition of this criteria committee. There you will find our leading research people in the specific field that the criteria document deals with, and you will also find there the specialists from Sweden, and in some cases they also have a hearing with foreign experts. The specialist professors and so on, from universities in Sweden,

5 MR. WESTLIN: (cont'd.) may have a place in that committee. Also, the experts from the labour market parties, the Swedish trade unions, organizations, and from the employers.

So there is a consensus between these experts when they write a paper like this, and that, of course, makes it easier for us, then, in the proceeding negotiations - both within my department where we make the proposal, and for the discussions in the board later on.

10 MR. LASKIN: Do I take it that...I just read quickly through your values...but I take it you've got a one fiber standard now?

MR. WESTLIN: Yes.

MR. LASKIN: And you've got no different ceiling value standard, as it were, so that...

15 MR. WESTLIN: No.

MR. LASKIN: ...and what was the thinking behind that? I'm just wondering because, for example, our proposed regulation not only specifies a time-weighted average, but also specifies a maximum allowable ceiling level which is higher than the time-weighted average. I take it you haven't got that with respect to asbestos?

20 MR. WESTLIN: Now, in the first place, of course, you know that we aim at a tighter control. We don't foresee at the present moment these very high peaks of exposure, and that might be one thing.

25 On the other hand, even if we should loosen, for some reason or other, the regulation, make it less rigid or less stringent, maybe we would put into the regulation some sort of peak value or ceiling value. But on the other hand, I think we are rather...fairly reluctant. We would really discuss that thoroughly first, because it's difficult enough to measure and control one fiber level, which is standard median, or it's more

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5 MR. WESTLIN: (cont'd.) a level than a single value, but in order to use that properly, also, I think, and to be sure that you are below that level, you have to take into account also single values. Otherwise, you are in difficulty practically.

10 And to say that you should never be above, say...if you have a very high peak value, of course, you could say that you would have to stay below twenty or twelve fibers, maybe, but if you would like to go down with the peak value, it would be very difficult for you to control that in a meaningful way.

15 You would have people out in the country at all work sites all the time to ensure that there is never such a peak, so we see the purpose and we think it's a good thought, but we have hesitated as regards its practicability.

MR. LASKIN: And in terms of your time-weighted average, do I take it that that is based on an eight-hour working day?

MR. WESTLIN: Yes.

20 MR. LASKIN: Our proposal here, for example, is to calculate that on a forty-hour working week. Do you have any thoughts or comments on...

MR. WESTLIN: No, I think that can be discussed. I think you could also maybe use a four-hour period in order to make it more certain that you really stayed below the value.

I'm not too fond of a forty-hour or forty-eight hour week.

25 MR. LASKIN: Yourself.

MR. WESTLIN: But these, of course, are all matters that can be discussed and evaluated and assessed in different ways. I would be a little bit concerned about a week value.

30 MR. LASKIN: Can you elaborate on your own personal concern about amosite? What's...is there any particular evidence or studies that prompt your concern?

5 MR. WESTLIN: Well, there has been put forward some evidence, I think, not at least in this last conference in Montreal, that was maybe a little bit worrying about amosite, and I think you look upon the Selikoff studies at Paterson, of course there is always the possibility there...a very strong possibility...that a lot of the illness in this cohort that he has looked upon is due to the use of amosite.

10 Maybe you shouldn't argue only from that point of view, but still this is an amphibole, and the fibers tend to be more...to stay longer in tissue than the chrysotile, and they are also more similar in their dimensions than the chrysotile.

15 So...and on the other hand, we have in Sweden, if you want to use asbestos, for most purposes, we have then the possibility for these purposes that might or might not be permitted, and I think quite a few will be permitted.

20 We have the possibility to use chrysotile, so why should we then introduce...even if you are not one hundred percent proved that the crocidolite or amosite should be more dangerous, which I think there is basically a trend in that direction...but even if that should not be so, why should we have additional hazards to the one we are accepting with the white asbestos.

25 So I would be rather in favour of being specifically cautious with the amosite. We have used amosite in Sweden as a substitute for crocidolite in construction of asbestos-cement pipes. That was allowed in 197...well, it was allowed after our second regulation on asbestos was promulgated, and then we made it a condition or provision that they had used crocidolite before...but there were laboratory experiments showing that it would be possible with amosite and it was tried also in full scale, and they worked with amosite for a number of

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MR. WESTLIN: (cont'd.) years and that produced quite as good pipes as the crocidolite ones.

That factory was later on shut down due to the unwillingness of the European enterprise and conglomerate to invest more money in the plant, which was in its turn, of course, due to concern about the stringent policy of the Swedish authorities. But it was not shut down due to any activity from our side at the time that it happened.

MR. LASKIN: Is the manner in which you dealt with asbestos similar to the manner in which you are dealing with other hazardous substances, other carcinogens in the workplace?

MR. WESTLIN: That's a difficult one, I think. It has some similarity, of course, and there might also be specific points where there might be a difference.

I think these carcinogens which are generally available and...for mankind...and which are ubiquitous - like benzpyrene or arsenic in low concentrations, and lead...some people say lead is carcinogenic, that was not my intention...but, say, chromates and other things, of course, put you to quite other problems than if you are dealing with benzidine, or chloric acid or more specific, sophisticated chemicals like that.

So the problem then with asbestos is that it is so widely spread, and it's so very difficult to control if you let it loose to everybody. You have it put into buildings and machinery and there will always be work done on that, maintenance and demolition, and it's a very difficult proposition to have a control of all this amount of danger that you build-in to your society.

Maybe it could be done and shall be done to some extent, but it's a difficult problem.

DR. DUPRE: Dr. Mustard, I think you had a question.

DR. MUSTARD: Can I just pursue this a bit further?

DR. MUSTARD: (cont'd.) In setting your limits of exposure, do you do a risk assessment?

MR. WESTLIN: Yes, we try to.

DR. MUSTARD: Do you have any guidelines as to what is an acceptable risk, to your management/labour groups, in terms of carcinogens?

MR. WESTLIN: No, sir. I think I can say that we have no general agreement in the sense that we have put down some sort of figure which would be universally used for all types of substances.

Of course, we have an agreement for asbestos at the present time, which is accepted by labour and also employees, that at the one fiber present limit, there might - and very probably there is - still a hazard. It's not zero hazard, and who can tell what that remaining hazard is.

We have got some information here from the Asbestos International Association, and it was shown also in Montreal. On the one axis here you have accumulated exposure - fiber years per milliliter - and on the other axis you have relative risk of lung cancer, and you can see that the results of different studies, different research people, differ very much, but they all give straight lines.

So whichever angle you prefer to believe in will give you a different figure, and we have not decided which curve to believe in. But we accept the conclusion that there is remaining hazard, and that is accepted for the time being by the Swedish workers and by us.

Of course, the workers then say that, okay, for the time being. We want you to tighten the regulations because if you have such a risk, of course, the total risk, the overall risk, may also be dependent upon how many people, if you have a one percent hazard the outflow is very dependent on whether

MR. WESTLIN: (cont'd.) you have ten thousand people exposed or you have a million, or you have one thousand.

5 So they say, for the time being we accept this, but we want you to tighten, to strengthen the regulation down to point one fiber per milliliter. Of course in that connection they have been also influenced by the recommendations of Professor Selikoff, who has for some years recommended zero point one.

10 DR. MUSTARD: Now, let me pose another question in this area. You have said that you would encourage or indeed require the use of a substitute if it's available. I know this, and you are selecting the substitutes, they presumably are tested to show that they are not a health hazard.

15 Let us suppose that you were faced with a new substance, and that the screening of the new substance showed that in effect, on the basis of the biological assays and animal testing, that it was a carcinogen. Would you allow it to be used at a level which would be a potential risk to workers that could be exposed to it, or do you have some policy to handle that?

20 MR. WESTLIN: General policy is that it might be allowed to be used under controlled circumstances that give you a very small hazard, and that small hazard, that accessible and small hazard would have to be, of course, compared with the benefits to working people and society on the other hand.

DR. MUSTARD: Do you do an economic assessment of the benefits and publish that with your data?

25 MR. WESTLIN: No, we don't publish it. But we send it out when we have the hearing of the written material, to all parties concerned. We send with it our estimates, which are on rather general terms. We have not the capacity, the skill and the people and resources to make a very thorough assessment, and we also distrust that method because in many cases we think
30 that once you choose a particular way of technical and economical

5 MR. WESTLIN: (cont'd.) development, it shows that on your part you will find that it was not by far so expensive, and there comes new possibilities and new developments into the process so that the estimates you made from the beginning were fairly shaky.

But, of course, we try to make, as far as possible with a reasonable amount of work, we try to assess that.

10 DR. MUSTARD: Just to get at this risk question a bit further, how do you control exposure to radiation, how do you control exposure to vinyl chloride? Do you have a...let me put it this way. If I work with asbestos am I exposed to a greater risk than if I work with vinyl chloride, and if I work with radiation am I exposed to a greater risk than if I work with vinyl chloride or asbestos, or do you have some kind of coherent policy to cover all those areas?

15 MR. WESTLIN: I think we have, in principle, the same policy. Of course, we have...radiation, we have a very thorough individual exposure control.

20 DR. MUSTARD: But how often...radiation you can to a fair risk assessment on.

MR. WESTLIN: Yes.

25 DR. MUSTARD: What limits do you set in terms of radiation exposure? What guarantee would I, as a worker, have as to the degree of risk that I might have of developing cancer from my work with...say, in your nuclear power industry?

30 MR. WESTLIN: Well, as you know, we follow the ICRT recommendations - which is five rems per year. But we have said also in Sweden, and in other countries, in the last year that that limit, that burden should not be accepted or used every year. That could be accepted for one year out of several, but it should not be generally used.

I think this control and this regulation works

MR. WESTLIN: (cont'd.) out in the way...at least that is the estimate in Sweden....that it produces roughly perhaps an increase of cancer in the magnitude of about one percent in all the exposed workers.

Although if you really use the five rem per year throughout the whole time, it would certainly be higher.

DR. MUSTARD: It would be a lot higher, yes.

DR. DUPRE: Just to make sure I understood the last thing you said, Mr. Westlin. Where radiation is concerned, you mentioned a one percent risk?

MR. WESTLIN: Yes.

DR. DUPRE: For the workers?

MR. WESTLIN: Yes.

DR. DUPRE: And that is one percent of what?

MR. WESTLIN: One percent increase of cancer incidence.

DR. DUPRE: One percent increase in cancer incidence.

MR. WESTLIN: Yes.

DR. DUPRE: Now, do you apply that same thing to, for example, the one fiber level in asbestos? Is that roughly in the one-percent-increase-of-risk area?

MR. WESTLIN: I am afraid the data on asbestos are far more difficult to assess than the data on radiation.

In our Swedish asbestos cement industry, the figures up to date point at the level of about ten percent increase in asbestosis at the level of somewhere between one and two fibers.

Now, that is not the tumor incidence. It is not just as disabling, of course, as if you have mesothelioma or lung cancer. We don't know what the lung cancer incidence is in this case. It's still being investigated. It's not finished yet.

5 MR. WESTLIN: (cont'd.) But nevertheless, it's a disabling disease. Now many of these cases, of course, of asbestosis were not at the very late stage, so it includes fairly light cases.

And of course, we see a lot of cases here when one study says one thing and another study says quite something else. We know, also, of some cohorts with a very low disability from fibrosis.

10 We know, for instance, of the Berry study in Lucerne, and also other studies. But nevertheless, we don't feel that also the one fiber...it might be acceptable if you have a very small population and if you have efficient control and really keep below the one fiber, but we are very much, very much anxious to follow this up and maybe it would be a very good thing if we could have a tighter control.

15 At the same time, we have to look at the practical side. We don't want to introduce something that is not possible to live with technically, and that would be just to deceive ourselves, and we don't want to have anything that is not possible to control hygienically either...I mean by reasonable safe measurements.

20 DR. MUSTARD: May I ask a question about what you mean by a ten percent increase in asbestosis? I would not expect...

MR. WESTLIN: Not ten percent...that wasn't an increase. I beg your pardon. Ten percent of the population.

25 DR. MUSTARD: Ten percent of the exposed population will get asbestosis on between one to two fibers of exposure?

MR. WESTLIN: Yes. In that case.

MR. LASKIN: Asbestos cement?

MR. WESTLIN: No, that's a very preliminary result.

DR. MUSTARD: That's rather interesting.

30 MR. DANIELLSON: It's not published yet.

MR. WESTLIN: It's not published.

MR. LASKIN: It is or it is not published?

MR. WESTLIN: It's not published yet.

DR. MUSTARD: When can we get access to the data?

MR. WESTLIN: I think it will be published later this year. In the fall, maybe.

I have a preliminary report. I can give you the name of the research people and you can write to them...

MR. LASKIN: Could you do that?

MR. WESTLIN: ...and see if they are willing to give you their preliminary results.

MR. LASKIN: Your risk assessment on asbestos...

UNIDENTIFIED SPEAKER: You'll get the name?

MR. LASKIN: I'll get that.

You'll give us the name of the researchers and whom we are to write to?

MR. WESTLIN: Yes.

MR. LASKIN: Is your risk assessment on asbestos in the criteria report prepared by the criteria committee?

MR. WESTLIN: I would have to look that up.

Yes, there are some figures there. You will have these figures.

MR. LASKIN: Were there any particular studies that your committee relied upon in doing its risk assessment?

MR. WESTLIN: What is mentioned here is a study of insulation people in the U.S.A., and the isolation (sic) people in New York.

MR. LASKIN: Selikoff's studies? Selikoff's studies?

MR. WESTLIN: It's not...yes, I think so.

MR. LASKIN: Anything else that...?

MR. WESTLIN: Well, the studies mentioned in this report are the studies of Elmes and Wagner, Evaluation of the

MR. WESTLIN: (cont'd.) Scientific Evidence.
That's the Elmes and Wagner documentation that, of course, they
depend upon, and this study has a lot of assessments.

MR. LASKIN: All right.

MR. WESTLIN: So every assessment that they refer
to is not repeated in the document.

MR. LASKIN: When we talk about risk assessment,
and when Dr. Mustard asked you about it, were you responding
yes to a risk assessment in quantitative terms, actually taking
particular studies or whatever evidence you had and trying to
make a quantitative prediction as to the incidence of malignancies,
for example, at certain fiber levels, or is it an evaluation of
the epidemiological and animal evidence generally?

MR. WESTLIN: I think we tried to do both, but we
are...I think from my department we have not found it able to
say that, since there are different gradients in these curves, we
have not found it able to say that we believe Nicholson is right,
or we believe somebody else is right, that the angle here should
be, say, forty percent lung cancer increase at one fiber level
at twenty-five years or forty years, or that it is twice that
or three times that as Nicholson proposes.

We think in any case it would...it leads us to
the conclusion in any case that you should try the best solution
from a technical point of view to keep the exposure down.

Of course, these different gradients will give
you different assessments.

MR. LASKIN: That's right.

MR. WESTLIN: But you are still within a range,
maybe you could call it of the same order of magnitude. It
might differ twice or three times, but...

MR. LASKIN: Could you make available, perhaps,
to all of us at lunch time a copy of that preliminary criteria
report?

MR. WESTLIN: Yes.

MR. LASKIN: And also, if you have it, the Elmes
5 and Wagner document?

MR. WESTLIN: I can, but how do we make...

MR. LASKIN: We'll photocopy it.

We have the Nicholson document...we have the
Nicholson document.

MR. WESTLIN: It's one hundred and three pages.

MR. LASKIN: Can I ask you, along these same
10 lines, what relative importance you give to epidemiological
studies on the one hand, as opposed to animal experiments on
the other?

MR. WESTLIN: We generally try to produce both
15 instruments. Of course, we think that epidemiological data may,
in the long run and at the final point of decision, be more
decisive.

But in many cases medical data from animal studies
give good support to one view or the other, and they may also
give explanations that enable you to exclude, maybe, some
20 possibilities.

MR. LASKIN: For example, let's take the debate
on chrysotile versus crocidolite, where certainly the evidence
that has been presented to us if you look at the animal evidence,
that would suggest that they are equally hazardous, and indeed
it would appear that OSHA and NIOSH, you are probably familiar
25 with, seem to rely to a considerable extent on the animal
evidence.

I take it that approach has not found favour
in Sweden?

MR. WESTLIN: No, it has not.

MR. LASKIN: Can you explain the thinking behind
30 that?

5 MR. WESTLIN: I'm afraid I have difficulties in that, but I think the epidemiological evidence, nevertheless, is more convincing, and animal studies, of course, have their difficulties and the animals, the rats, for instance, are nose breathers and that might introduce something very different from men. They are nose breathers. They breathe through the nose to a much greater extent than man, and that is one difficulty, and they have many other differences from man.

10 If you implant the material, of course, then you are in other difficulties which may make it difficult to deduce from animal data. I don't think we are absolutely convinced in this case. There might always be some doubt. If I speak for myself, I feel convinced by the epidemiological data that there is a clear difference as between the white and the blue.

15 And I think some of the epidemiological data that was presented yesterday in Montreal also showed that fairly clearly.

20 MR. LASKIN: Are there any particular studies with respect to crocidolite that influenced the ultimate ban on crocidolite in Sweden?

MR. WESTLIN: Yes, there are. I have not all these studies with me, but of course we have been impressed by several studies made in the United Kingdom.

MR. LASKIN: Can you recall any?

25 MR. WESTLIN: Well, I think of the studies made by Edge and Berry and Newhouse and others.

MR. LASKIN: I'm sorry, Dr. Mustard.

30 DR. MUSTARD: I would just like to take up the question of animal versus epidemiological studies. How do you handle a situation in which the substance is recognized to be a carcinogen...we'll take vinyl chloride as the example...both from human exposure data, but you have insufficient human exposure

5 DR. MUSTARD: (cont'd.) data to do any kind of risk assessment, and you therefore base solely on animal experimentation to make a judgement? How do you determine what level of exposure people should be exposed to? Do you wait for a long period of time for further exposure, and then come to a decision? Or do you decide to act from the basis of the evidence, and if so, how?

10 MR. WESTLIN: We try to make an assessment, of course, and we have done so in the vinyl chloride affair, and it has also been published. I'm sorry I haven't got...

DR. MUSTARD: Can you just tell us how you did it? What approach you took?

15 MR. WESTLIN: Well, we tried to...no, I'm afraid I can't, but in principle we took the animal data and tried to evaluate the exposure of a certain part of the lifespan and convert that to corresponding exposure for humans...

DR. MUSTARD: I see.

MR. WESTLIN: For a certain part of the lifespan, came to some conclusions.

20 But I want to be frank with you and when the vinyl chloride incident came up, of course, we were aware of, in the first instance, that data seemed to be convincing...on the other hand that it was not possible to convert the whole industry in a very short time. So we...and we also considered that it was a too-large benefit for society and for all to have these new materials, that we did not really consider a complete ban on vinyl chloride. We banned the use as a propellant for pesticides, and maybe some other purpose, but not for the production of plastics.

25 And we immediately enforced a reasonable level... I don't remember whether it was twenty parts per million or ten parts per million, something like that...which we thought

MR. WESTLIN: (cont'd.) was possible to reach within a few weeks, or maybe a couple of months.

5 Then we looked more thoroughly into the material and, of course, we were at the time also rather dependent on the American material. We took guidance from what was being done in the United States and tried to follow that discussion.

10 And we also analyzed the technical possibilities thoroughly, and after all this we thought it possible to come down to one part per million, and given a reasonable time the industry also succeeded in that.

The assessment of hazard and risk was really made, then, after that was made, after that. So it was not really used for deciding upon the standard.

15 MR. DANIELLSON: May I mention that the vinyl chloride case could be a very interesting one, to get this new knowledge about the cancers, and we also knew that there had been very high concentrations earlier. We were cutting down, and of course we could decide...differ between banning or not.

20 Of course, you must take a decision, and we found that it was, as Mr. Westlin has said, it would be practical, possible to get down to one.

25 I may add, the management didn't think it was possible. They opposed this discussion. That in fact we were in this case correct. In one year, they were down to zero point four, zero point five, and in fact they have gained - they could keep the vinyl chloride within the plant instead of putting it out in the air, and I think in this case the plant acted very responsible and was very wise, too.

30 I personally had much discussion with management there, and they took the responsibility and, I think from our point of view, in all the discussions with unions, we could say that is...we could accept that it could show, we would be rather

5 MR. DANIELLSON: (cont'd.) sure that they could continue that way when taking into consideration what really was the background to those cases that we discovered before. And I think we have, we could be very happy about that.

I don't have any regrets about vinyl chloride as it is handled today.

10 DR. MUSTARD: In effect, it went to the technical control, the best sort of level you could get things down to, as an approach with vinyl chloride, then?

MR. DANIELLSON: The technical method.

DR. MUSTARD: Yes. Which is, you tried to get the industry to go to the best level they could get things down to?

15 MR. DANIELLSON: Yes. Yes, of course. As we always do. And, of course, I can also say that the trade unions say that zero is not possible. It is not possible to measure. And it was not...we don't think there would be any danger at one. I have personal discussions with Professor Holman, he is now a professor in my department, about how to estimate, and we had a discussion also with other experts, that they
20 could say it would be likely to think that we could be safe, because you never can say what will be safe in all cases. But we could accept it.

25 I would say, I'm not an expert, and you cannot get a scientific base for all decisions...that you have another counterscience. You have to make the best decision in any situation. If you do nothing, if you said, wait, it would be the least favorable way.

DR. DUPRE: Am I correct in understanding that your standard for benzene is ten parts per million?

30 MR. WESTLIN: No, you are not, sir. I think it's high. But I'll look it up.

MR. WESTLIN: (cont'd.) Benzene, that's five parts per million.

5 DR. DUPRE: Has that standard been in place for some time?

MR. WESTLIN: Yes. It was first published in... since 1928, at least...maybe some...

MR. DANIELLSON: 1978.

MR. WESTLIN: 1978, yes.

10 DR. DUPRE: Thank you.

MR. DANIELLSON: You see, Westlin is the first civil agency, chemist, expert to be employed in our administration. It was 1956.

15 Before 1956, we had no chemical expert. It is some indication what has happened from the fifties until now, how the chemists are prevailing, so to say.

MR. LASKIN: Perhaps just one other subject and maybe we can adjourn for lunch and I can let my friends back here question, but another issue that this Commission has to deal with is the presence of asbestos in buildings - schools and the like, and what, if anything, we should do about that.

20 Does your board or your government have a policy with respect to asbestos in buildings?

MR. DANIELLSON: Of course, as far as the workers are concerned. It is under our supervision and we must in such cases see to it that they are not in danger when working there.

25 MR. LASKIN: Right.

MR. DANIELLSON: I think you always, in that situation...many times you have to make alternatives...what would be the danger in keeping it as it is, or when they are removing it maybe it would be more dangerous, in some cases, to remove it.

30 When speaking of the public and so on, I don't

5 MR. DANIELLSON: (cont'd.) think we have today so very far discussion on these methods. We have had asbestos in parliament and in the Ministry of Health where I worked earlier, they had asbestos in the ceiling, and it has been removed.

At that time we was applied in a very bad way, because it was laid in the ceiling and it will move every time an electrician goes there to do anything, so it will cause a lot of damage.

10 Mr. Ettarp, you will add something to the government point of view?

MR. ETTARP: I think asbestos has been more and more a general political subject, not only related to working environment.

15 We have had bills in the parliament every year during the last part of the seventies in order to ban asbestos, and we have...you say the data was wrong, but there is strong debate a half year ago about the underground in Stockholm, and the general public was very much against the great plans there because it used asbestos on all stations, and so on. And we have also some concerns for traffic...I mean the brakes
20 producing asbestos in the general surroundings.

I think there is no politicians today, from the very left to the very right, speaking in favour of asbestos...not a single one in the parliament.

25 MR. LASKIN: Just on this point of dealing with it where it exists, can I just take you to tab number two in that book of documents you have in front of you which appears to be a paper by Mr. Westlin, and...

MR. WESTLIN: Number two.

30 MR. LASKIN: Number two. And at page five, just in the last...I'm sorry, are you with me, Mr...?

MR. WESTLIN: Yes.

MR. LASKIN: The last...

MR. WESTLIN: Let me check.

MR. LASKIN: It's the paper entitled, The Swedish Experience in Banning...

MR. WESTLIN: Okay. Page five, yes.

What...?

MR. LASKIN: You say there, at the bottom of the page:

"It should be mentioned also that in general no old asbestos insulations, etc., are demolished until this is motivated for technologic, economic reasons, provided, of course, that they are not defective and give away considerable amounts of dust. The asbestos is instead wrapped up, painted, etc. Demolition is carried out at a suitable opportunity, often when a complete equipment is scrapped."

Do I take it from that that the preferred manner of dealing with asbestos in buildings, if at all possible, is to seal it up or encapsulate it, rather than removing it?

MR. WESTLIN: Yes, I think so. Of course, this is a matter where you have to take the most suitable way, and the pragmatic. But in many cases if you should start a big activity for taking down asbestos insulations in buildings that are in use, you could not use the best methods for demolition.

We think that when you demolish an equipment or a building completely, you can inject water in the asbestos insulations and you can take away old pipes and do the demolition of the asbestos at some suitable place where you have a sealed and evacuated equipment for that purpose, and use different suitable methods in that particular way.

If you go into a house like this, or a factory

5 MR. WESTLIN: (cont'd.) or some big steam generator, or maybe a steam turbine or something like this, insulated with asbestos, and everything around you is in full activity, you will spread a lot...expose a lot of people, and you can't also use the best methods. And if, then, the asbestos is in good shape and can be encapsulated by, say, paint or aluminum cover or whatever, we think that in many cases at least it's better to let it stay there, well covered, until you can do the demolishing in a good way.

10 DR. DUPRE: Was it discovered in Sweden that asbestos had been used as a spraying material in a number of schools?

15 MR. WESTLIN: I'm not familiar with that, I'm sorry to say. In some schools it has been used, but I don't think schools has been a particular area for spraying of asbestos. It has been used in some big buildings, some factories and some institutions. For instance, hospitals. But I don't think we had it as a particular problem just for schools.

20 DR. DUPRE: Then you have not had to devise any kind of program to either encapsulate or enclose or remove asbestos from schools?

MR. WESTLIN: No.

MR. DANIELLSON: We have other troubles with our schools. The teachers have the problems - the pupils.

25 MR. ETTARP: But I think Swedish schools generally are smaller than the American and Canadian.

MR. LASKIN: Well, Mr. Chairman, it might be a convenient time if we broke for lunch. I would suggest not a lengthy lunch in view...I know that some of our witnesses have scheduling and flight problems, and I expect a reasonable amount of questioning from the back, so I might suggest an hour.

30 DR. DUPRE: We shall resume, then, at quarter

DR. DUPRE: (cont'd.) to two.

THE INQUIRY RECESSED

THE INQUIRY RESUMED

(REPORTER'S NOTE: There is a small part of the proceedings missing here due to technical difficulties.)

DR. DUPRE: Are you all right? Have you got it? I interrupted, Mr. Casgrain. You were pointing to tab four, page one?

M. CASGRAIN: Yes.

CROSS-EXAMINATION BY M. CASGRAIN

Q. In that section it is stated that the provisions of section three, which is the ban on asbestos, "however, shall not apply to the handling of rock-containing asbestos in connection with mining or similar activities".

Could you please tell me the extent of the mining industry, in general, in Sweden? I understand that Sweden is famous for its copper, in particular, Stora Kopparberg, the first-ever incorporated company, and it's also famous for its steel works. So presumably you have copper mines and you have steel mines, iron ore mines?

MR. WESTLIN: Well, we have one of the biggest iron ore mines in the world, one of the biggest, at least, underground mines - L.K.Ab. at Kiruna - have a lot of other smaller iron ore mines, and we have a lot of mining for mostly complex ores containing copper, lead, zinc, arsenic, other metals.

5 M. CASGRAIN: In the course of your evidence, you stated to a question from the floor that as far as mines were concerned the number of fibers were below zero point five?

MR. WESTLIN: Yes. Generally, yes.

M. CASGRAIN: Generally. When we say generally, in other words you are talking here of an average of zero point five?

10 MR. WESTLIN: Most of the figures are very much lower.

M. CASGRAIN: But when you actually determine what that number of fibers is, I suppose you do that on an average basis, and averages being averages, it would range between, say, zero point two and one, I suppose, and you would end up with, perhaps, lower than zero five?

15 MR. WESTLIN: I think in most of the mines there is no detectible levels, or very low, and when we talk of medium or...medium values also, these are not for a very long time - say, for a work day in some cases, or something like that.

20 M. CASGRAIN: Yes. But nevertheless, a figure of zero five has to come from some kind of an average, correct?

MR. WESTLIN: Yes, that's quite correct.

M. CASGRAIN: Do I understand that as far as Sweden is concerned you do not consider that that percentage, or at least that level of fibers in the mine is dangerous?

25 MR. WESTLIN: I would not go as far as that. We would consider that for the mining industry to be at a level that is acceptable, considering that it is not...no one is, as far as we know, exposed to these levels. These are conditions in certain places of the mines.

30 M. CASGRAIN: Do you have any studies that were carried out in those mines, on workers who have been exposed for more than, say, twenty-five years, which would demonstrate to you

M. CASGRAIN: (cont'd.) that there are no physiological changes, no pleural plaques, or nothing whatsoever?

5 MR. WESTLIN: No, we have not got that. On the contrary, we would expect that they get plaques. We have some few plaques in the miners populations. We don't know if it's due to the fibers that come from the rock, or whether they are due to fibers that come from friction material - for instance, in the equipment or from other sources - but there are a few cases of plaques in miners.

10 M. CASGRAIN: But nevertheless, it is asbestos and again, asbestos is considered by your regulation as being a dangerous material?

15 MR. WESTLIN: We are not quite sure either that it is asbestos. It might contain asbestos, and in some cases the dust might also be fibrous fragments of other material. It's a mixture of fibers or particles that, according to the regulations, have the same dimensions as we count when we count for asbestos. We know the diameter and the length relation, and so forth.

20 M. CASGRAIN: At any rate, I think I can quite appreciate that it would not be very practical to close down this huge iron ore mine because of that small number of fibers, would it?

MR. WESTLIN: No.

25 M. CASGRAIN: When I say this, I suppose one takes into account the socioeconomic factors involved in closing down such a large mine?

MR. WESTLIN: Yes.

30 M. CASGRAIN: Following on the regulations, may I refer you to page eighteen, section one, and here the section states that:

"Exceptions are only made in cases where asbestos

M. CASGRAIN: (cont'd.) "occurs as an impurity, and in quantities of not more than one percent per weight".

Would you explain to me why you chose the figure of one percent rather than two or three percent?

MR. WESTLIN: The main reason is that we want to have an analytical method that gives us a reasonable accuracy in determining whether it is below or above one percent, and if it is below one percent, of course, that does not mean that high exposures of fibers are allowed. It just means that it is not regulated by this particular document.

M. CASGRAIN: My question is, why not two percent or three percent? How did you ever come to the figure of one percent?

MR. WESTLIN: The main reason is that we wanted a figure that was low and that gave a range below that figure that was connected to a minor hazard than above the figure, and at the same time not lower than we could determine that percentage with an accuracy that we were satisfied with.

M. CASGRAIN: Well, I'm sorry if I come back at it again. Either the one percent figure is there to make sure that no one adds asbestos to products because it wouldn't be worth their while at one percent, or it is there because you figure that below one percent, or below two or below three there would be no problem. What I'm asking of you is, do you have any studies that tell you that at one, two, three or five percent you would have too much asbestos for what your regulations want?

MR. WESTLIN: I don't quite follow your line of thought, because even if it's below one percent, it is still regulated by other regulations that the exposure to fibers, or asbestos if you prefer that, must not be too high.

M. CASGRAIN: Well, all right, I'll ask you another

M. CASGRAIN: (cont'd.) time and then we'll leave it. What I'm trying to ask you, sir, is, you said one percent here.

MR. WESTLIN: Yes.

M. CASGRAIN: Where does that figure come from? Were there any studies carried out to tell you that one percent was a proper figure in the light of your regulations? That's what I'm trying to get at. Or was it just added in in the regulations as such, as being mathematically easy to look at?

MR. WESTLIN: There were two reasons. One was that we thought that the hazard from the asbestos content must be lower, below one percent, than above one percent. And the other reason was that we couldn't go below one percent because then we would arrive at difficulties in analyzing the material.

M. CASGRAIN: So it is the lowest figure you could pick?

MR. WESTLIN: Yes, the lowest we could handle.

M. CASGRAIN: I understand.

MR. DANIELLSON: A practical figure, so to say.

M. CASGRAIN: Can you tell me what proportion of your exports represent the exportation by Sweden of rock wool and glass fiber products?

MR. WESTLIN: I'm not quite sure, but I know...I think I know that they export some quantities. But it's my impression that export is a minor part of their production. But I don't know if somebody else...

MR. ETTARP: No, but I think on the whole it's a domestic industry. We have some export to Denmark and Norway, but at the same time we have import from England, and I think from Denmark, too.

So it's yes, for the construction industry.

M. CASGRAIN: All right. Could you tell me perhaps

5 M. CASGRAIN: (cont'd.) then, to have another idea of the importance of that industry, how many employees are employed in the rock wool and mineral glass fiber industry in Sweden?

MR. ETTARP: I have no exact figure, but I should think, oh, let's say a thousand persons or something like that.

M. CASGRAIN: One thousand only?

MR. ETTARP: One thousand, yes.

MR. WESTLIN: All together.

10 M. CASGRAIN: All together, in Sweden?

MR. ETTARP: All together, yes.

We have, as far as I know, three factories in operation.

M. CASGRAIN: Are you referring now to fiberglass or rock wool?

15 MR. ETTARP: Both.

M. CASGRAIN: Both?

MR. WESTLIN: Both together, yes.

M. CASGRAIN: What proportion of the domestic demand does that meet?

20 MR. ETTARP: For insulation, you mean?

M. CASGRAIN: For whatever purposes the product is being used.

MR. ETTARP: I can't tell you that, but let's say ninety percent, or something.

M. CASGRAIN: Ninety percent.

25 MR. ETTARP: But I am not sure.

M. CASGRAIN: And would you tell me how many employees there were employed in that particular industry, say in 1964?

30 MR. ETTARP: I think there is no relation between that and the asbestos industry, because the Swedish government introduced a new policy in the beginning of the seventies in order

5 MR. ETTARP: (cont'd.) to save anything, and we have had grants from the states, heavy grants from the states in order to put more insulation in old houses and more insulation in our new houses, and that's the main reason why that industry has expanded.

10 M. CASGRAIN: I wasn't there yet, but anyway, could you still give me the answer as to 1964, as to how many people were employed in the rock wool and the fiberglass industry in Sweden?

MR. ETTARP: I don't know, but the state program for saving energy started in 1974, and at that time we had an expansion. But let's say we have four or five hundred persons.

15 M. CASGRAIN: And at that time, can you tell me how many people were employed in the asbestos industry in Sweden in 1964?

MR. WESTLIN: Well, let's say roughly one thousand, and I think there were maybe one thousand also in the mineral wool industry.

M. CASGRAIN: In the mineral wool?

20 MR. WESTLIN: These two together - glass wool and the rock wool together were roughly maybe one thousand. It was mentioned here five hundred. I think that's too low, and maybe one thousand in the asbestos industry at that time, roughly.

M. CASGRAIN: So, one thousand in each?

25 MR. WESTLIN: In each. That's a guess. I would like to point that out. I'm very sorry, we haven't brought these figures here.

30 MR. ETTARP: At that time when I was dealing with the labour market policy we tried to start a new plant in the far north of Sweden, so as far as I remember, there was not so many employees in the glass fiber and rock wool industry.

M. CASGRAIN: What about the glass industry in general in Sweden? Is it a large industry?

MR. WESTLIN: Glass fiber?

M. CASGRAIN: The glass industry in general?

MR. DANIELLSON: Has been increasing tremendously.

M. CASGRAIN: But was it not originally a very large industry in Sweden, the glass industry?

MR. DANIELLSON: A lot of small plants, but not so very many employees all together.

MR. ETTARP: We have lost many of them because of international competition.

M. CASGRAIN: What competition?

MR. ETTARP: From France and England and Germany, Denmark.

M. CASGRAIN: In fibers or in glass in general, or what?

MR. ETTARP: In glass in general.

MR. WESTLIN: There has been, you know, an old factory in Sweden making plain glass, industrial glass, for windows and so on, and that was shut down due to technical development, some ten years ago, and replaced by another factory making window glass. A British concern built the new factory.

Then we have the decorative glass industry making leaded glass, and that has consisted of a number of very small plants. So the total population of that part of the industry never was very big, but it's some-hundred people - five hundred maybe, or something.

M. CASGRAIN: I don't want to belabour the subject, but just one last question on that subject.

What were the number of employees in 1974, in the glass and rock wool industry, and what was it in the asbestos industry, in 1974?

5 MR. DANIELLSON: I don't think that anybody in the panel is prepared to answer this question. Maybe it's going to be a little significant. We have very little estimation because we are charged with the policies regarding safety, and of course if we had been more prepared from the beginning, we could have given you the figures. But in fact, I say, we very little discussed that kind of figures when we are preparing our regulations.

10 Our point of view is, is this dangerous or not for the people...is it healthy, to create a good life for them in their work environment.

15 We have to look at that, if there is any alternative, if you will have produced new kinds can you maybe change the materials, can you change the technology. Maybe that is **not** necessary at all, that we could delete it, and we don't count the heads and we don't in that way try to find how many...how much will, so to say, society earn from the point of view of employment and so on.

20 Of course, we have to look to the consequences. Okay, so then co-operate the labour market and so on, when something dramatically is changed, but you must bear in mind that it's one very hard set principle and it was very, very clearly stated in that state...not Royal Commission...that forwarded this proposed new Work Environment Act. I was the chairman of this...as I said, that by no reason, the fact
25 of unemployment or such things, could influence on the charge whether to allow it or not to allow some activity. If this was not acceptable from the point of view of safety and health of the workers, you should abandon this activity.

30 And, of course, the labour market, unemployment authorities, had to take over, but that would be made within the range of the normal labour market activity.

MR. ETTARP: Yes, but there is another factor, too. We shut down two asbestos factories. One was producing corrugated sheets for roofing, and that market had gone to the steel industry and to the aluminum industry, and there is no connection to the glass fiber or rock wool industry.

The other factory was producing asbestos pipes.

M. CASGRAIN: Yes?

MR. ETTARP: And that's the market went to the steel industry and...what do you call the plastic...the pipe produced by glass fibers.

M. CASGRAIN: Are you saying that the cement pipe industry in Sweden, at the time that the plant was closed down, had gone to the glass fiber...?

MR. ETTARP: Yes, to some extent.

M. CASGRAIN: And was that an Etternit plant? Etternit?

MR. WESTLIN: Yes.

MR. ETTARP: Yes, I believe it was. They produced corrugated sheets. Etternit, yes.

M. CASGRAIN: Did they also produce cement, asbestos cement?

MR. ETTARP: No, they are two separate factories.

M. CASGRAIN: Yes? But were they involved as well in the asbestos-cement pipe plant that closed down?

MR. ETTARP: No, they were two separate factories - one for parts produced of asbestos cement, and the other one was producing corrugated sheets of asbestos cement.

MR. DANIELLSON: We didn't shut down. They shut down themselves. It was because they didn't find, for some reason, find it feasible to continue. But they were still allowed from the solta's point of view, were allowed to continue.

M. CASGRAIN: Did you not say...I thought I heard you say that they were worried about the too-stringent

M. CASGRAIN: (cont'd.) regulations. Did you not say that, or did I just...

5 MR. DANIELLSON: Yes. But we didn't, so to say, close. They shut down themselves.

MR. ETTARP: There was another factor, too. They developed corrugated sheets made of steel and covered by plastic, and they were a much better quality than the Etternit, so they should...have taken the market more or less without any connection to the asbestos discovery.

10 M. CASGRAIN: So from what you have just told me, then I should take it from what you gentlemen tell me, that the only reason why, in effect, you decided to ban asbestos is because you considered it dangerous?

MR. WESTLIN: Yes.

15 M. CASGRAIN: Yes? That's correct, is it?

MR. DANIELLSON: Would you repeat...?

M. CASGRAIN: The only reason why you decided to ban asbestos is because you considered it to be dangerous?

MR. DANIELLSON: Of course.

20 M. CASGRAIN: All right.

May we then go to the study that you were good enough to make available to us, by Elmes and Wagner, and may I refer you in this connection to page twelve thereof, last paragraph.

25 DR. DUPRE: Do we have that...?

MS. KAHN: You guys picked yours up upstairs?

M. CASGRAIN: Yes, we did.

MR. LASKIN: I'll get ours.

30 DR. DUPRE: Perhaps, M. Casgrain, while we are waiting for it to come down, if you would permit a question from the chair as an interlude, I would like to draw your attention again to tab four that M. Casgrain was asking about.

M. CASGRAIN: Tab four?

DR. DUPRE: Tab four. Which is...

MR. DANIELLSON: Regulations, yes.

DR. DUPRE: Yes, regulations.

If we go to page nineteen, at the very top, section three:

"The measures needed in order to reduce any asbestos exposure entailed by rock work, mining or quarrying must be decided ad hoc, according to the asbestos content of the rock".

Now, what do those words 'ad hoc' entail in terms of the process that the board will follow?

You have some predisposition in advance that there may be some asbestos in the mineral, and you will then go to that particular mine to examine it?

MR. WESTLIN: Yes, we are making a complete survey now of all the mines in Sweden, to control it. And when that is finished, we will have a good platform to start further work from, and then we'll leave the responsibility of further activity to the employers. But we will follow that up, of course, that the work is done.

DR. DUPRE: May I ask you, if I simply go back one page to page eighteen, is the column on the lefthand side - which is the list of minerals - the minerals that help you in deciding on an ad hoc basis which mine to analyze?

MR. WESTLIN: Well, I think the decision, of course, has to take that into account - what minerals are present, but we also have to look to what contents there are present in the side stone of the rock, and maybe also in the ore itself. So there are taken material samples from ore and from the rock itself in the mine, and then they are analyzed. If it shows a high content of some of these minerals - and some others that are asbestiform,

MR. WESTLIN: (cont'd.) we will have then also to analyze the air contents, of fibers, and maybe arrange encapsulation of the crushing machinery and elevators and, you know, ban the transport equipment of such things.

DR. DUPRE: Are any of those minerals listed in that column the ones that you have commonly found in iron ore mines?

MR. WESTLIN: Well, we have found anthophyllite and tremolite, as I mentioned.

DR. DUPRE: In iron ore mines?

MR. WESTLIN: Not so...very little...in the mines, not in the ore. Only traces in the ore itself, but in the mine, in the rock stone, the side stone in the mine there might be...

DR. DUPRE: In the mines in which iron ore is mined commercially?

MR. WESTLIN: Yes.

DR. DUPRE: Have you found these in the sidestone in mines in which other minerals are being mined commercially?

MR. WESTLIN: Copper.

DR. DUPRE: Copper?

MR. WESTLIN: Mixed, complex copper mines.

DR. DUPRE: Complex copper mines.

MR. WESTLIN: But I would like to stress that it seems...it's fairly rare that there are these locations in the mines. There might be in some specific tunnel, you know, we call it ort...I don't know if you are familiar with that...it's a tunnel in the rock where you transport vehicles or ore, etc. Some sites, some very small locations there might be something.

DR. DUPRE: What about side rock in mines in which other minerals are being commercially mined, besides iron and copper. Do you have any such mines or are iron and copper the only two, commercially?

MR. WESTLIN: We have very few pure copper ores. Most of our copper ores are very complex ores, containing copper, zinc and arsenic and gold and silver, and I think also some cadmium and zinc and tellurium and so on.

But I think iron ores and these more complex copper ores are the ones where we have found mentionable quantities, and also these are very low, but it's there that they have been found so far. Not in mines of pure lead or zinc.

DR. DUPRE: M. Casgrain.

M. CASGRAIN: Let me look at one thing to explanation when reading this translation...

MR. DANIELLSON: Into English, if you have the same paper that I have. I have to stress that from page ten you have comments on the Asbestos Ordinance. It is really comments re the regulation...and page nine...

DR. DUPRE: Yes, I understood that.

MR. DANIELLSON: ...and the signature would be at page nine, so to say: "The following standards are explanations to make it easy to read", and so on, but have no real legal value.

DR. DUPRE: Oh, I understood that from that reading. Thank you.

M. Casgrain?

M. CASGRAIN: Yes, if I may go back for one minute to tab number two...in fact, going to tab number two, page four. In the light of the reply that you gave me to the effect that the Swedish government tried to ban asbestos because it was dangerous, period, I'm looking here at page four of tab four, and I see here there's something about the trade union not wanting to touch Etternit products. I see here that there was a lot of publicity in the newspapers...

MR. WESTLIN: Where?

M. CASGRAIN: Tab two.

MR. WESTLIN: Tab two?

5 M. CASGRAIN: Page four. And perhaps start at page three, second paragraph.

MR. WESTLIN: Page three, second paragraph?

10 M. CASGRAIN: Yes. And here I see that when the regulations were published and the news of the hazards spread through the mass media, public opinion mounted and parliament became agitated and trade unions wanted fast action.

Could that have had a little to do with the implementation of your ban on asbestos?

15 MR. WESTLIN: The ban was, the strong recommendation to replace asbestos where possible, where less-harmful substances were available, was issued several months before this...

M. CASGRAIN: Yes? Before 1975?

MR. WESTLIN: It was issued, the protocol was signed in June, I think.

20 MR. DANIELLSON: I can make...once again, because it was mentioned earlier and it's very difficult to make people understand with the Swedish mass media what really happened.

I signed this new regulation, I think, around June, July. It took some...yes, the signing and the printing...it took some time to publish this because it was holiday in Sweden in summer time and it's not maybe a good time for the printing plant.

25 What happened after that was, at the beginning of September, this report was published showing that eight cases in Trollhattan, at the Newhart plant in Trollhattan, had been found to have mesothelioma, as to...it's the cases from the twenties and thirties, and then mass media, TV, started the very hard discussion, showing for (unintelligible.)

30 About one week later...and of course, my administrator was accused of having been sleeping all the time,

MR. DANIELLSON: (cont'd.) what have you done, do you have many people working, do anything?

5 And after that ours were really published and they said, oh, at last that they did act when something happened.

I just roughly describe it this way, and after that we had a discussion - what happened after that. That would be how, so to say, those regulations are still in force. The new one is entering into force on the 1st of July this year. There had been some additional changes. One was the lowering of the two fiber limit to one, and also some special additional arrangement for, among other, asbestos types, asbestos in some other...

MR. ETTARP: Flooring.

15 MR. DANIELLSON: Yes, flooring, and so on.

But the principles were put down already before this discussion. But of course the politicians, they were involved first after we had in fact made our decision.

20 M. CASGRAIN: I'm all mixed up now. What I look at, in front of me, and what I have in tab four has a date, 1981, and date of issue December 7, 1981, and that particular regulation contains at section three a ban on asbestos.

MR. DANIELLSON: Yes.

25 M. CASGRAIN: Now, when I look at tab number two, page five...sorry, page three, I see that in the fall of 1975, there was something, it was suggested that they should replace as much as possible.

Now, 1975 was not the ban that I see at section three of the 1981 regulation, is it?

MR. WESTLIN: It's not the same ban, if you call it a ban.

30 M. CASGRAIN: Oh, I see. So you are saying there were two bans - one a little ban, and then the bigger ban in 1981?

M. CASGRAIN: (cont'd.) Is that it?

MR. DANIELLSON: No, it was not the big ban.

M. CASGRAIN: All right.

5 MR. DANIELLSON: You can see...it has something to do also, as we said earlier, that we get a new legislation from the 1st of July, 1978. In fact, at 1975, my authority was not empowered to really formally ban. We only could issue hard
10 recommendations, that in fact had some effect as a ban because labour inspection, and so on, acted on the basis of this idea, so to say. So in real, it started in 1975 and it should be said very easily that the import of asbestos to Sweden has decreased from twenty thousand tons at that time to one thousand tons a year, roughly, so it has been a tremendous decrease.

15 Of course, much of this is due to the deleting of asbestos cement.

M. CASGRAIN: I can appreciate that.

20 Could I go back now to the danger of asbestos and the danger of minerals in general, and I'm looking, I guess, the chairman has it now, at this criteria document for Swedish Occupational Standards - Manmade Mineral Fibers, 1981 4.

I'm looking at page twelve, at the last paragraph. I reads as follows:

25 "The experimental evidence suggests that extra-fine manmade mineral fibers are as dangerous as asbestos. If the industry is creating fibers in this size range, then industry is creating a risk of mesothelioma. Steps must be taken to insure that workers are not exposed to dust containing these fibers either in manufacture or use. This can be done by
30 controlling the method of manufacture so as not to produce any fibers below a certain diameter"..

M. CASGRAIN: (cont'd.) and so on and so on.

My question to you is, is there any regulation in Sweden now governing those fibers?

MR. DANIELLSON: There are regulations on manmade mineral fibers. They are issued and they will enter into force on the first of January next year.

M. CASGRAIN: Are they a small ban or a big ban?

MR. DANIELLSON: There would not be a ban...I would not call it a ban in any case. They give instructions how to handle these things, and if you know, really know, that there are discussions going on about manmade fibers. We are quite convinced that there are big differences between those two families, so to say, and we say better to start at the beginning to be cautious, that it wouldn't happen once again something that happened with asbestos. Because I will not accuse old times, so to say, asbestos. Our knowledge has increased, and that's what made us more aware of these dangers.

So we have issued these regulations and we will act on the basis of this regulation and, of course, if there should be any reason also to make any ban, if there is something to be banned, maybe you could say something about yes, our suspiciousness and to what extent we would direct...

M. CASGRAIN: So if it is confirmed to you by scientists that these fibers are just as dangerous as asbestos fibers, would you then ban?

MR. DANIELLSON: Yes.

M. CASGRAIN: You will?

MR. DANIELLSON: Of course, there is a difference between what would be as dangerous. It depends also in what way they occur.

M. CASGRAIN: I see.

MR. DANIELLSON: For instance, if there may be

MR. DANIELLSON: (cont'd.) hundreds as much fibers or dust with asbestos because of its nature, than in manmade fibers, that has to be taken into consideration. But, of course, I am a little surprised at this question because to me it's very natural that the same dangers will be met in the same way, whatsoever is the reason.

M. CASGRAIN: Yes. By the way...and perhaps your colleague on the right can be better equipped to answer that question...are you aware of the Copenhagen Conference that took place in the month of May?

MR. WESTLIN: Yes.

M. CASGRAIN: In respect of man...were you there?

MR. WESTLIN: Yes.

M. CASGRAIN: Well, can you perhaps tell us a little bit about what was said concerning the experience concerning (a) rock wool, and (b) manmade mineral fibers, or glass fibers, if you wish?

MR. WESTLIN: Well, there was, as you know, two big studies - one in America and one in Europe, sponsored by the industries and in co-operation with the WHO, and also the IARC.

The conclusion of the European study was that there seemed to be some over-incidence of lung cancer. But the material, as we judged it, was fairly shakey and there were several snags to it.

For instance, there was no clear dose-response relationship.

M. CASGRAIN: May I interrupt you for one minute so that we don't lose it?

When you say no clear response relationship, are you talking about in terms of years of experience?

MR. WESTLIN: No, I am talking about the relation

MR. WESTLIN: (cont'd.) between incidence and exposure.

5 There are several things that ought to be cleared, we think, with this material, and also there was much material that was published, amongst other things also animal experiments, that showed that these fibers behave quite differently from asbestos. So we think before one can conclude anything from this material it will have to be studied a lot more scientifically.

10 M. CASGRAIN: Is it not a fact that indeed what took place there is that scientists explained that since there had been no constant and longtime monitoring of employees working at fiber glass, it was difficult after...I think the period was about ten years...to really tell exactly what was going to happen.

15 Whereas in the case of asbestos, they had that kind of evidence. Is that not right?

MR. WESTLIN: Well, I think the general opinion was in favour of both rock wool and glass wool to be less dangerous than asbestos. That is my impression of the conference.

M. CASGRAIN: That is your impression?

20 MR. WESTLIN: Yes.

M. CASGRAIN: Well, I'm just wondering, didn't the conference distinguish between rock wool and fiber glass, and did it not say that rock wool was more dangerous and that there was evidence more positive in that respect than with fiber glass?

25 MR. WESTLIN: There were no general statements, as I remember, from the conference, of that nature...no resolutions. But I give you right insofar as some of the evidence that was presented had a trend in that direction.

M. CASGRAIN: That rock wool was more dangerous than fiber glass?

30 MR. WESTLIN: Yes, correct.

But also in this case you must consider the fairly

MR. WESTLIN: (contd.) bad material that was really presented.

5 M. CASGRAIN: The what? I'm sorry.

MR. WESTLIN: The bad quality of the material - the exposure estimates and maybe also the medical data were not of the same quality that all this asbestos material has by now which is, of course, rather natural, asbestos having been studied for so long.

10 M. CASGRAIN: That is right. That is right. And in fact I wondered about whether perhaps in ten more years, having the same experience as asbestos, they might not come to the same conclusion as asbestos, namely, that neither one was more dangerous than the other, and that either could be used safely at one to two fibers per c.c.?

15 MR. WESTLIN: It's always difficult to guess about the future, you know, and especially, I think, in this case. No one knows what we will know about this within five or within ten years.

20 But I would also like to stress the fact that fiber counts in all these factories where they produce rock wool or glass fiber were extremely low as compared to the correspondent fiber count that would have occurred if asbestos would have been handled in the same way.

M. CASGRAIN: Were not the fiber counts in the order of one and two fibers in respect of glass fiber?

25 MR. WESTLIN: No. In most factories they were much lower than that. They were below one fiber, essentially below.

30 M. CASGRAIN: Yes. And how do you know that the fiber counts in the asbestos industry is not at this time about the same - namely zero five to one fiber per c.c.? Do you know that?

MR. WESTLIN: I know in some factories they are.

5 M. CASGRAIN: Yes. Mmm-hmm. Which means they would be the same count.

MR. WESTLIN: Yes.

M. CASGRAIN: You referred to Mr. Selikoff, Dr. Selikoff, I think, in your statement. Did you agree with the statements made by Dr. Selikoff at the symposium in Montreal?

10 MR. WESTLIN: Well, I don't...I won't make such a general statement as to agree to him on every point. On the other hand, I don't, for the moment, recollect any point where I would actively disagree - although I am aware that I do disagree on some points, but I can't recollect.

M. CASGRAIN: May I help you?

15 MR. WESTLIN: I beg your pardon?

M. CASGRAIN: May I help you, perhaps?

MR. WESTLIN: Yes, maybe.

20 M. CASGRAIN: Were you there when Dr. Selikoff was asked by...from the floor, a question from the floor, as to whether he considered that the mining industry and the factories and the plants operating in the States, the modern plants, were safe or not? Were you there when the question was asked?

MR. WESTLIN: I think so.

25 M. CASGRAIN: Yes. And do you recall that he said in effect that as far as he was concerned he saw no problems in respect of the mining industry, no problems in respect of the plants - and he referred to the Johns - Manville plants in the States in particular - and that the problem lay not in the modern plants, which could in effect use asbestos safely, but in plants or other places where there was no monitoring or surveillance? Do you remember that statement by Dr. Selikoff?

30 MR. WESTLIN: Yes, I remember it.

M. CASGRAIN: And do you agree with that statement?

MR. WESTLIN: But I don't remember it exactly in the way you...

5 M. CASGRAIN: Correct me if I'm wrong.

MR. WESTLIN: I know that Dr. Selikoff has for a long time argued that the maximum allowable concentration for asbestos should be zero point one fiber per milliliter, and I suppose he made that statement in the meaning that if you were below zero point one fiber, you had a remaining acceptable risk.

10 M. CASGRAIN: You suppose...you think that this is what he was thinking when he made that statement, although he didn't make it?

MR. WESTLIN: Although he did not...so he did not mean that the risk was not there at all. He meant that it was acceptable, comparing the...

15 M. CASGRAIN: So we heard the same thing, but we didn't think he thought the same thing as you and I thought, is that it?

MR. WESTLIN: Yes. That happens, you know.

M. CASGRAIN: I think that's about it.

20 And were you there as well when he was asked whether he was still of the same opinion that there was no need to ban asbestos and that it could be used safely?

MR. WESTLIN: Yes.

M. CASGRAIN: Do you agree with that statement?

25 MR. WESTLIN: Well, I think there are some uses of asbestos that are of such benefit to industry and society and to the working population that these uses can be used and...

M. CASGRAIN: Could you tell me what they are?

MR. WESTLIN: Well, we have listed in our...

30 M. CASGRAIN: Well, look, before you go on, I'm not talking now of using them provided you obtain several permissions to in effect try and use them. I'm talking about

5 M. CASGRAIN: (cont'd.) using them in the world, not sort of trying to demand several times of some government that it permit you to do so, which is not very practical. So in that vein...

MR. WESTLIN: I don't think you have to ask the government several times. It's quite enough with once.

M. CASGRAIN: Depending on the answer you get.

10 MR. WESTLIN: We have a general exemption, for instance, in packings and gaskets, in the regulations.

M. CASGRAIN: Provided they could not otherwise be replaced by rubber gaskets?

15 MR. WESTLIN: But I don't think you will use simple rubber gaskets in, for instance, in a high pressure plant in the petrochemical industry. I don't think that question would arise, that you put here now.

It has not arose in Sweden, at least.

20 M. CASGRAIN: If I may, before we...perhaps to help you sort of shorten the list...to a question that was asked of you, you stated that when you compared one dangerous substance to another, and when it came to asbestos it was the one thing as between the two that had the same danger, more or less, that should be banned because it was all over the place and it was very difficult to control, and therefore a ban was the best thing because then you knew that you wouldn't have as many places to control, as opposed to another dangerous substance which was not so much ubiquitous. Did I understand you right?

25 MR. WESTLIN: Yes, I said something along these lines, and I don't mean that that is one decisive point. It's one point that might give you a hint in one or the other direction.

30 M. CASGRAIN: I think what you had in mind, and I think you mentioned that as well, was the fact that in the case

M. CASGRAIN: (cont'd.) of asbestos you found it in destruction, you found it in the roofs, you found it in the motors, you found it...my God, you found it everywhere.

May I ask you this, are you not aware that asbestos is no longer used for insulation, per se, and therefore that in the future it will not be used in this respect, and that everyone is in agreement that it should be banned as far as using it in ships, if indeed it is still used at all anywhere, and that in point of fact the asbestos materials which are now used and produced consist of asbestos-cement pipes, panels, and then that the others are locked in products such as in vinyl floor tile, for instance? Are you aware of that?

MR. WESTLIN: Well, I'm aware that asbestos is not used for insulation purposes in Sweden. I'm not aware of the situation. I have no complete picture of the situation in other countries.

M. CASGRAIN: But then, you know, if you ban insulation, you would not find it in the buildings anymore, would you?

MR. WESTLIN: Well, not as such, maybe.

M. CASGRAIN: Mmm-hmm. And it would leave you with the panels that might be used in the building, it would leave you with the asbestos-cement pipes and boards, in which most of the time the asbestos is locked in, and other products where it's locked in. That does not make it that difficult to control as otherwise it would be if, as in the old days it was found all over the place in its raw form, does it not?

MR. WESTLIN: Yes, correct.

M. CASGRAIN: So perhaps when you stated that this was one of the reasons why you thought banning asbestos was the thing to do, if we look forward in time and accept the assumptions I just made, maybe you could eventually change your

M. CASGRAIN: (cont'd.) opinion.

Before you say no, I refer you to the fact that you said you are ready and able to be convinced if ever this is properly put before you.

MR. WESTLIN: We'll have to judge that situation when it appears. I will agree with you in principle that the situation, if you want to use asbestos or if you want an authority to make a permit for the asbestos industry, it's of course easier if the situation is such as you described it.

M. CASGRAIN: Yes. So in other words, I can go as far as to say that in Sweden you would be prepared to decide specifically that, provided it is restricted to asbestos-cement pipe, to panels and to locked-in products, you would have no hesitation...?

MR. WESTLIN: Well, we are not here to make a new regulation.

M. CASGRAIN: One can try.

MR. ETTARP: But will it locked in there forever?

M. CASGRAIN: Well, maybe you want to discuss...

MR. ETTARP: That's the main question, because all other substances which are dangerous to handle on the working site could be handled there, but asbestos will be transferred from generation to generation, and that's the bad side of asbestos.

M. CASGRAIN: There's a good answer to that.

MR. ETTARP: And you refer to the symposium, and everyone there was talking about controlled use.

M. CASGRAIN: Yes.

MR. ETTARP: Controlled use, and no one explained what it really was. Probably there was some sort of regulations, but on the other side we heard from our colleagues all over Europe and the United States that their resources for inspections

MR. ETTARP: (cont'd.) had declined in most of the countries.

5 M. CASGRAIN: Ah, but Sweden is not the same.

MR. ETTARP: No, but it's to a very low level, and can you create a safe handling if you don't have safe inspection?

10 So what my point is, the Swedish way of handling this problem, when you can give permission in specific cases, is the only way of a safe handling of asbestos, because we have a hundred percent control where asbestos is used in the country.

M. CASGRAIN: Well, I suggest to you that banning is not a hundred percent control. It's a hundred percent no control.

15 But with respect to your question of locked-in products, would they stay locked in forever, I can only answer to you that there is certainly more certainty that they will stay locked in forever, locked in, than there is in the statement made to you people that in respect of the glass fiber you might well have very great problems in the next ten years if you don't do something about it.

20 MR. DANIELLSON: Yes. I might add, yes, if you're discussing two types of fibers, and I will assure you we are very anxious just also to study these mineral fibers, and we have in our agency sponsored research, and in September of this year we are arranging a seminar on fibers, thin fibers - both
25 manmade and asbestos. We will tackle that problem as we mentioned, as Professor MacDonald has tackled many times, to really make our best...if you can find a minute point to stand on to help or to learn for the future.

30 MR. WESTLIN: And, of course, you must be aware that there are an immense number of possibilities for synthetic fibers. There are, of course, these most dangerous fibers

MR. WESTLIN: (cont'd.) which you find naturally of the erionite type, the very thin and long fibers, and you can easily, if you want to you can make a similar fiber synthetically.

But the fibers used in Sweden, I don't know in this country, but by far the completely dominating portion of the fibers used in Sweden are the ordinary insulating glass fiber and rock wool fiber.

And I want to stress also for almost all synthetic fibers the very enormous difference in dust, fiber count, when you work with these synthetic fibers...or most kinds...and asbestos.

M. CASGRAIN: I'm sorry, just one more time on this question of the time when the ban was made. I have now found the figure we are looking for, on tab two, and it's on page seven, and I saw here on page seven, second paragraph, a statement that when the elimination of asbestos came, it had caused labour market disturbances, and later on you say:

"A couple of hundreds of people got unemployment problems, most of them temporarily."

Does that mean to say that all the other workers in the asbestos industry were shifted over to the glass industry?

MR. WESTLIN: No, no. Other industries.

M. CASGRAIN: Yes?

MR. WESTLIN: In the neighborhood of the asbestos-cement plants.

M. CASGRAIN: Yes. And I suppose that this had been looked at by the government before, and you knew that this would not cause much of a problem.

MR. WESTLIN: Certainly.

I have personally been in contact with the Labour Market Board.

M. CASGRAIN: In respect of research, can you tell

5 M. CASGRAIN: (cont'd.) me what amount is being devoted at this time, by your various bodies, to glass fiber and the possible biological effects of it?

MR. WESTLIN: Well, we have taken part in the big European joint project administered by the WHO, similar to the team project in America, and I think our part in that project has been perhaps one or two million krona, or a quarter of a million dollars, or something like that.

10 And we have besides this running up costs, of course, we have invested quite a number of krona in equipment suitable for this research. Just now we are buying a transmission electron microscope for about half a million dollars, to pursue this project.

15 M. CASGRAIN: I think I saw somewhere in the tabs, and I can't locate it now, that you are still carrying on pretty good amount of work in connection with asbestos diseases?

MR. WESTLIN: Yes.

M. CASGRAIN: I quite don't see why, since you banned it.

20 MR. WESTLIN: We followed up some cohorts that we had from the asbestos industry. You don't think that's necessary?

M. CASGRAIN: Well, I don't think that...

MR. WESTLIN: Is the danger already so well established?

25 M. CASGRAIN: You've made up your mind. I don't see why you should go on.

May I come back to this example of the vinyl chloride plant that you talked about? I think it was you that talked about it, Mr. Westlin. Are you the one who spoke about this vinyl chloride plant?

30 MR. DANIELLSON: Yes, I did.

M. CASGRAIN: You did? Yes.

MR. DANIELLSON: I mentioned it, yes.

5 M. CASGRAIN: It's Mr. Daniellson. I'm sorry,
I'm sorry.

If I understand you correctly, when this incident occurred you went to the producer and you were able to arrange with him some way of curing the problem, and you said he behaved in a reasonable manner and you were able to settle the problem by having the proper measures taken to remedy the situation. Is that correct?

10 MR. DANIELLSON: In fact, we went to meet, yes, and we wanted to discuss the trouble.

M. CASGRAIN: And you settled it with him, as it were?

15 MR. DANIELLSON: We settled it all together. We have...Arne Westlin and some others were there...and we had discussions, and also with the union representatives, of course, they were there, actually in the plant. And to try and get an idea how to handle the trouble.

20 M. CASGRAIN: Yes. And I think that if I look at tab five, I think you classify vinyl chloride along with asbestos? I'm looking at pages thirty-two and thirty-three, in tab five...group C, page thirty-two.

MR. DANIELLSON: Yes.

25 M. CASGRAIN: And I see asbestos, except crocidolite. If I turn the page the penultimate word is vinyl chloride. So we can assume from that tab that both are considered equally dangerous?

MR. DANIELLSON: No, nothing to do with that.

M. CASGRAIN: No?

30 MR. DANIELLSON: They are dangerous in that respect, but not as far, to the extent. Is it a classification A, B or C

MR. DANIELLSON: (cont'd.) if they are or are not carcinogen, but you cannot, say, look on them in the same way...

5 M. CASGRAIN: We're in the same class, anyway.

MR. DANIELLSON: In this respect only.

M. CASGRAIN: As a carcinogen.

MR. DANIELLSON: It's not a detailed classification. It has to do with the background, it is proved on human, on animal and so on. It is the background of this classification.

10 But you can say that all these substances you have mentioned would be about the same...have the danger in the same way. Or maybe from the fact that you also have to take into consideration the way they are used, you could control them, and so on.

15 M. CASGRAIN: So you are saying in effect, dealing with vinyl chloride...or even asbestos factories for that matter, if it could be controlled to your satisfaction it would be all right?

20 MR. DANIELLSON: It may be that a plant could be controlled. I don't know. I haven't said, I haven't really said that I also agree which...maybe Dr. Selikoff may have said that the problem with asbestos, I think, is not so very much in plants or in mines. The problem is when the product is transferred out, for instance, in the building industry when you have moving workplaces, small things like repair work, things like that.

25 And also, is the fact when a product leaves the factory, leaves the plant, there is no more problem from the point of view of the plant. The problem arises when the product must be used in the future, and we demolish, things like that. That is the problem, and makes asbestos much different from any other case...and you speak of solvents and things like that. You can't control them with a painter using the solvent. You
30 could say maybe that it is not more dangerous, but it is a

MR. DANIELLSON: (cont'd.) problem with asbestos that you must be quite aware of.

5 MR. ETTARP: And we have a brake drum factory going in Sweden, a very modern one, so if you compare those two factories they are running on safe ground, both of them.

MR. DANIELLSON: Brake lining factories.

M. CASGRAIN: Using asbestos?

MR. DANIELLSON: Yes.

10 MR. ETTARP: Yes.

MR. DANIELLSON: That's Volvo and Saab, I'm...

M. CASGRAIN: They are the best cars in the world.

MR. DANIELLSON: No, I didn't say that, but I want to say that we will be making the best...

15 M. CASGRAIN: They use the best brakes.

MR. DANIELLSON: ...linings, because they are now going to asbestos linings.

M. CASGRAIN: Yes.

You are aware of what the president of Daimler-Benz said, are you?

20 MR. DANIELLSON: What representative?

M. CASGRAIN: You are aware of what the president of Daimler-Benz said? That he would not wish to sell any of his cars without asbestos lining in his brakes.

25 MR. DANIELLSON: That may be. There are very different opinions just about the brake linings, you see, and it would continue maybe too far these discussions, and I'm not an expert.

M. CASGRAIN: No, no. I don't insist.

30 MR. DANIELLSON: But some people say that the linings without asbestos would be in fact better than linings with asbestos, at least for some reasons. But that could also be more favourable from economic point of view because they will

MR. DANIELLSON: (cont'd.) last longer and maybe two and three times as much.

Now, I'm not...I'm in a difficult position. I have personally a Volkswagen with brake linings that I have used one hundred and ten thousand kilometers before I change them, so I don't know how long brake linings with asbestos lining would last.

Thank you.

M. CASGRAIN: Do you have any criteria for the approval of substitute material when it comes up?

MR. WESTLIN: Well, we generally say, I could say to you, that it must not give an exposure in the type of handling that it is prepared for, than what is stated in our ordinance about acceptable levels of exposure.

M. CASGRAIN: Because you keep saying in your regulation that the word 'less harmful' keeps appearing, so I was wondering when the substitute comes to you and it's brand new, how do you know it's less harmful?

MR. WESTLIN: Well, it's a difficult question, but our impression is that if it emits very small amounts of dust and if it does not give rise to considerable fiber exposure, it is reasonable to assume that it is less harmful.

M. CASGRAIN: But I am talking about a substitute now. When you talk about the dust of a substitute, whether it be fiber glass to dust, whatever kind of dust, is that what you are saying?

MR. WESTLIN: Yes.

MR. DANIELLSON: It could be another technology, too.

M. CASGRAIN: I'm sorry I have to go back again...no, this time I'm going to tab number seven, at page three. The top of the page.

5 M. CASGRAIN: (cont'd.) Oh, I see. This is drafted by the Swedish Trade Union Confederation, so I should not ascribe the statements contained in this to you people.

MR. DANIELLSON: Thank you.

M. CASGRAIN: They are not your statements.

MR. DANIELLSON: No.

10 M. CASGRAIN: So when the Swedish trade union says that the aim of the trade union movement itself is to put an end to the use of asbestos in industrial life, this is not your statement?

MR. DANIELLSON: They usually don't ask us before they make their statements.

15 M. CASGRAIN: I presume as well...how strong is the...how big, I'm sorry, is the...

MR. DANIELLSON: L.O.

MR. WESTLIN: L.O.

M. CASGRAIN: ...Swedish Trade Union Confederation in Sweden?

20 MR. DANIELLSON: Two million members. About half the Swedish labour market.

M. CASGRAIN: They represent half the labour market?

MR. DANIELLSON: Yes.

25 M. CASGRAIN: How strong are they in the government?

MR. ETTARP: They are not in the government at all, because we have a nonsocialistic government and L.O. is very close to the Social Democrats, and they are in opposition.

M. CASGRAIN: Is that right? But they do come into power from time to time?

30 MR. ETTARP: No one knows.

M. CASGRAIN: Yes.

MR. ETTARP: But they will have another congress in two years, and no one knows what...which statement they will give us at that time.

M. CASGRAIN: Who was in power in 1975?

MR. ETTARP: The Social Democrats.

M. CASGRAIN: At that time that particular trade union movement must have had some influence with the government?

MR. ETTARP: Yes, but I think they still have influence on the government.

MR. DANIELLSON: Mmm-hmm.

MR. ETTARP: But they are not so strong.

MR. DANIELLSON: As a matter of fact, it wasn't the government who decided. It was the authorities, and it would merely be like a general declaration, maybe, and an independent authority can stand much cooler and easier on the street than a politician can.

M. CASGRAIN: Oh, yes.

MR. DANIELLSON: Regardless what kind of government you have. They are much more in danger for the pressure. Maybe you call it democracy, of course, you could call it so, and certainly it is, but to some extent I think the Swedish model is just something where you can say we tried to look upon this matter just upon not so much a political point of view, upon the very substance that you would like, I think, if I can understand in your questions.

M. CASGRAIN: Well, anyway, I assume that you do not subscribe to the statement contained in that document, namely "the aim of the trade union movement itself is to put an end to the use of asbestos in industrial life"?

Do you subscribe to that statement?

MR. DANIELLSON: No, and of course they can act in...in my board there are two members of L.O. ..two out of eleven

MR. DANIELLSON: (cont'd.) members representing L.O. The board can discuss matters, of course.

5 But in fact, I must say, we mostly make a decision unanimously. Both labour market parties agree on the steps and agree with the authorities, and it is a very good position to act, because it makes it much easier to introduce, implement our policy. Maybe you could say it would sound like a compromise, but a compromise is as good as it can be done...maybe it would be the best solution.

10 M. CASGRAIN: In tab eight, page eighteen...and I note that that paper is again to be ascribed to the Swedish Trade Union Confederation...there is something here about complaints of being ill due to microorganisms.

MR. WESTLIN: What page?

15 M. CASGRAIN: This is page eighteen.

MR. WESTLIN: Eighteen. Yes.

M. CASGRAIN: Do you have any regulations concerning microorganisms?

MR. WESTLIN: Yes, we have some, but not very many.

20 M. CASGRAIN: There is no ban on microorganisms, is there?

MR. DANIELLSON: No, but we are just preparing regulations, you see. It has very much to do with recombinant DNA, and I just have been in Washington a week before this, testing the United States' authorities about their approach.

25 And we in fact, we are a little anxious of work in laboratories and maybe we have to look more, a little bit closer than before.

Industry has more tradition than laboratories have, about microorganisms in industry.

30 M. CASGRAIN: Well, thank you very much, gentlemen.

DR. DUPRE: Mr. Hardy?

MR. HARDY: Yes, sir.

CROSS-EXAMINATION BY MR. HARDY

5 MR. HARDY: In reading these various materials from the Swedish government, I get the impression that the society as a whole has determined that it's very important to provide very protective conditions in the working environment.

Is that a correct reading?

10 MR. DANIELLSON: Yes.

MR. HARDY: I found particularly interesting some of the provisions in the law, which I believe is tab one, which is the Swedish legislation on the working environment.

I'm sort of curious about those provisions as representative of this very protective attitude, and let me just ask you about a few of them.

15 As I understand it, the legislation...

MR. WESTLIN: Excuse me, I would like to see about something.

20 DR. DUPRE: Is that all right, Mr. Hardy, or would you like to take a five minute break?

MR. HARDY: Why don't we take a five minute break.

DR. DUPRE: All right, we'll break for five minutes.

25 THE INQUIRY RECESSED

THE INQUIRY RESUMED

30 DR. DUPRE: May we come to order, please.

Thank you.

Mr. Hardy, if you please.

MR. HARDY: Thank you.

5 I was, before the break, I was asking a few questions about what I see as a commitment on behalf of Sweden to be very protective in the working environment, and as I understand your legislation - which is tab one - among other things it covers working conditions in the military. Right?

MR. DANIELLSON: Yes.

10 MR. HARDY: And as I understand it, it also covers working conditions even for self-employed persons?

MR. DANIELLSON: Not self-employed. No.

Working hours doesn't cover self-employed.

MR. HARDY: Working hours don't, but the general...

MR. ETTARP: Did you say working hours?

15 MR. HARDY: No, I said the general requirements of the legislation...

MR. DANIELLSON: Oh, yes. Yes.

MR. ETTARP: It was a misunderstanding.

20 MR. DANIELLSON: Yes. But as far as self-employed, I have said earlier, it would give some...these would be technical provisions and when there is harmful substances, and so on.

You have more freedom if you are self-employed than under a company.

25 MR. HARDY: But in terms of protection in safety and health areas, this legislation does also apply to the self-employed?

MR. DANIELLSON: To some instances, yes.

30 MR. HARDY: I also see in this legislation that there are prohibitions about getting special permission for working between midnight and five in the morning.

MR. DANIELLSON: Mmm-hmm.

MR. HARDY: So I gather as a whole, then, the Swedish

MR. HARDY: (cont'd.) working force does not work during those hours?

5 MR. DANIELLSON: They do. There are certain general exceptions you can find in legislation where certain kinds of work need to be continued during the night, or otherwise carried on before five a.m. or after midnight because of their nature, then these fall into apparently special circumstances, so when work for some reason must, so to say, must be carried out in
10 the night, they should do. The processing industry, of course, you cannot shut down every night, and of course you have a lot of services - hospitals, for instance. Of course, they are going to also work at night.

15 MR. HARDY: But the general presumption in the legislation is that work should not occur during those hours unless necessary?

MR. DANIELLSON: Yes, it's just a general point of view.

20 MR. HARDY: Similarly, I notice that you have in your legislation special provisions for nursing mothers, which I found to be perhaps unique to Sweden.

MR. DANIELLSON: We have such, and they are now being, about to be moved to another legislation. You are pointing out that a mother may not be denied time off for the purpose of nursing her child?

25 MR. HARDY: That's right.

MR. DANIELLSON: The only provision, that only applies to women in Sweden.

MR. HARDY: I guess by definition...

30 MR. DANIELLSON: That means that if a nursing woman would like to nurse her child, she should not be denied to do so.

MR. HARDY: Then also I found particularly

MR. HARDY: (cont'd.) interesting, on page four
of tab one, which I gather is part of an introductory section
explaining the legislation, the final paragraph at the bottom of
page four that:

"Work environment problems such as monotony,
stress..."

MR. DANIELLSON: What is it?

MR. HARDY: It's tab one, which is Swedish
Legislation on the Working Environment.

MR. WESTLIN: I'm sorry. I thought you said tab
two.

MR. HARDY: I'm sorry.

MR. DANIELLSON: Tab one, page four.

MR. HARDY: That's right. Page four. And the
final paragraph on page four says:

"The work environment problems such as monotony,
stress and isolation must be solved in accordance
with the basic rule whereby working conditions are
to be adapted to human aptitude".

I'm just curious to know to what extent your board
has been able to reduce monotony, stress and isolation.

MR. DANIELLSON: Of course, you cannot, so to say,
solve all these problems with one blow, so to say. But with
consideration in creating, in designing those jobs, those factors
so to say, and of course we have a very hard discussion going on
just now in Sweden on utilization, for instance, of making work
more human for people than it has been traditionally. Maybe from
a physical point of view the work is easier, but from the
psychological and mental point of view it would be heavier.

What we can do, for instance, of course, is a
question of organization of the designing of the production, and
also, of course, creating contact between people. Job rotation

MR. DANIELLSON: (cont'd.) is one of the, so to say, approaches, and so on.

5 I don't think you would say you could find a general solution. What we have done in general, you have developed a recommendation just about psychosocial factors in the working environment, a green book...or a red one that you have seen here..I don't know whether it is...I don't think so. But a summary of the scientific approach and the knowledge in 10 this field in some pages, but once again I must stress that we tackle with different branches in different ways.

Also, maybe, we have a special regulation just in this Act that said it would be taken in account of the special conditions for a job working alone. I think it's in section...chapter....page thirty-five, I think, you will find it. 15 It's chapter three, section two, and last paragraph:

"The employer must consider the special risk of ill health and accidents connected with an employee working alone".

From the beginning, I would say, in the commission preparing this legislation, it would most aim for physical 20 dangers - hit by accident and things like that - that during the procedure and also when the bill was presented to parliament there was requirements, what requirements would be for white collar workers, that you should take more and more into consideration also mental factors, psychological factors.

25 So this point has been very much used just to meet such things as you have been asking about.

In fact, we also have drafted a regulation just on working alone. But as you can easily can find, it is not easy to hit every situation. So this regulation has not so much banning, as we have talked about earlier... 30

MR. HARDY: You haven't banned working alone yet.

MR. DANIELLSON: It just indicates some direction and, not least, stresses and need for contacts for health and also for the possibility to keep contact with other people.

5 And we also very much leave this to the labour market parties within the enterprises. They have to discuss, safety committees and so on, have to discuss how to design the work.

10 And to be working alone could be also...if I had been alone here, I had been working alone, and all of you had been against me, and now I have not the feeling. I left the country together in a big group, so...

In fact, a Swedish teacher has said we are working alone at schools and all the pupils are a little too...

15 MR. ETTARP: But when you are talking about psychological factors you have a close connection to the question of industrial democracy, and we have a special Act on that which was passed in 1978, I think, or 1977. So in fact we are leaving very much of it to the social partners.

20 MR. HARDY: But I guess it's fair to say that this is a good example of the extent to which the Swedish people, through their legislation, have put a very high priority on the healthiness, in the broadest sense of the word, of the working environment?

MR. ETTARP: Yes.

25 MR. DANIELLSON: It must be stressed that this Work Environment Act, this is rather far-reaching, I would say. It was unanimously decided upon. The only ones to have some differences were the communists, what will give much more to the workers to decide upon than what the other parties like to give.

30 MR. HARDY: Moving on to the way this general policy of the Swedish government has been applied to asbestos, I guess the thing I'm still a little curious about, even after

5 MR. HARDY: (cont'd.) the questioning of Mr. Casgrain, is determining exactly why it is that the government decided that the best way to establish a framework for regulating asbestos was to impose a ban and then grant exceptions, as opposed to establishing requirements for say...for exposure levels and then allowing industry to have the freedom and flexibility to determine how best to produce products that meet those exposure levels.

10 MR. ETTARP: First of all, I tried to explain to you earlier this day that it was not the government, it was the board.

MR. HARDY: I'm sorry. I'm sorry.

15 MR. ETTARP: Of course we are elected to the board, but we don't like to have it in the hot area between the government and the opposition.

MR. HARDY: I stand corrected.

20 MR. DANIELLSON: I think in fact we have made both. We have just not banned it and said everything is left to permission, things like that. We have a general approach that you shouldn't use asbestos. The only thing we have really banned is crocidolite, and we have talked of it. It's the only really ban.

MR. HARDY: Right, no exceptions.

25 MR. DANIELLSON: Once again, that ban could be different, with different meaning. We have banned with some exemption. When the exemptions are given...for instance, technical devices could contain asbestos and asbestos material, if the use of this technical device doesn't cause an exposure to asbestos dust...it's a very broad, general exemption, it would be stressed once again. We also say brake linings and gaskets that are little different, then we have to compare -
30 would there be any other solutions.

5 MR. DANIELLSON: (cont'd.) The third way we have is that in...besides the board can give permits and as far as repair, for instance in construction, to repair with asbestos material, the labour inspector can give his permit. And when it is a question of very small repairment, it doesn't need any permit at all. It's already a general permission given.

So this word banning is very often misused, also, in Sweden.

10 MR. ETTARP: In fact, we have controlled use.

MR. HARDY: I'm curious about controlled use with respect to a couple of products. The first is the asbestos-cement products, and am I fair in summarizing what I've read in these documents, that with respect to asbestos-cement corrugated roofing material that at the time the regulations went into effect in the mid-seventies there was no attempt by industry to convince you that they could continue to safely manufacture and use those corrugated materials?

15 MR. ETTARP: There certainly was.

MR. WESTLIN: Yes. Yes, there was. Of course there was. But you know there are always certain work operations that cause dust, and it was fairly easy to measure and state that there was dust exposure.

20 You know, at the time when the corrugated roofings were sawed up, it created dust. And the industry said, well, okay, we'll have exhaust for that purpose and there won't be any dust, and we controlled a number of construction sites and the result was that these exhausts were perhaps used at half the work places on these sites, and half of these examples the exhaust functioned as it should - although it was very good when tested, when the saw was delivered to the work site, and in half the cases it wasn't used at all. They used some simple equipment. So there was quite a burden on the workers, of dust exposure.

MR. WESTLIN: (cont'd.) But I think the discussion at that time might have proceeded if it had not been broken completely by industry itself. Industry preferred to completely get out of the market.

As far as asbestos-cement pipe is concerned, they had a permit to continue on certain conditions, and they also preferred to get out of the market, and that had very much to do with the recession in the Swedish building trades around 1978, and I was personally...

MR. HARDY: It's a situation we are familiar with in the United States today also.

MR. WESTLIN: Yes.

I had a meeting with the board of the Etternit Trust in Copenhagen, where Mr. Todrusky (phonetic) from the conference yesterday was present, and Herr Riescha (phonetic) from West Berlin, and they wanted long-term assurance that nothing was to happen in Sweden as far as regulations, in order to invest in further equipment and development of that plant.

Of course, as a single industrial educated engineer and merely a servant in the body, I can't give that assurance. I am sure the board will always do what it feels is the right thing to do in order to protect the health of the people, considering what is reasonable at the same time, so it was an impossible situation.

They also, as I presume, for commercial reasons found it then not motivated to invest more money in the plant, so they shut it down. And that was their decision. It was not our decision.

All these asbestos-cement products in Sweden, as has already been said, they had a declining market which may have influenced their judgement of the situation.

5 MR. ETTARP: There was another factor, too, and that was the fact that the workers in many construction sites refused to handle corrugated sheets, so the companies preferred to buy other materials on a voluntary basis. That had nothing to do with what the board policy was at that time.

10 MR. DANIELLSON: One thing would be added in general. When you need so much precautions when to handle a thing that it places a burden both on management and the worker, it is very difficult to get them to accept it. It's not only that it will, of course, be very expensive, but they don't accept it. They don't accept to wear respirators, for instance, or they do as they like, what the best way...and this is...well, you not always can have regulations, controlled regulations.

15 I must admit, in fact we have a good labour inspection. Not, as the United States has said the other day, one visit in one hundred and fifty years. It has been worse than Mr. Doyle who said to me a couple of years ago, one in a hundred years. But that may be. In Sweden it's one inspection in three years, or something like that. Of course, bigger firms, oftener.

20 But we cannot control it anywhere.

25 MR. HARDY: Just to complete the questioning on asbestos cement, would I be correct in suggesting that if a asbestos-cement manufacturer wanted to begin to market his product in Sweden, and as part of the marketing had developed... because there has been a good deal of development on equipment for cutting, for instance, asbestos-cement sheet...the manufacturer was willing to supply that equipment and could show you through a lot of demonstrations that that equipment works on the work site and does in fact keep dust levels very low, that that manufacturer might well succeed in getting your board to allow the marketing of his asbestos-cement products in Sweden?

5 MR. DANIELLSON: I don't think it would be very difficult. Of course, it depends upon how the material could be handled, and so on. I don't see any...I don't think it were very easy, and not at least, it would not be very easy to get the worker to accept it.

10 In fact, I have asbestos-cement plate on my house. It's now twenty years old and it is fading away, and of course I ask what to do - whether I have to have something other. But it has developed during these twenty years a lot of other materials and they are successfully done.

15 I would like to say that the bonding of asbestos cement has not lowered, in fact, the standard of our houses, in fact. There are good substitutes today...in some cases even better, so there is no need, nobody is asking for these reasons for asbestos.

There could be a special use, but not for...

MR. HARDY: For residential houses.

MR. DANIELLSON: ...big purposes on houses.

20 MR. HARDY: One other product I was curious about, as I notice that for six or so years now you have not allowed the manufacture or marketing of asbestos-backed sheet flooring.

MR. WESTLIN: That's correct.

25 MR. HARDY: And that's a product which, as I understand it, because of its locked-in and encapsulated nature, and because of the minimal amount of cutting that has to be done for installation, doesn't impose even the sorts of risk of asbestos-cement sheets, and so I was curious as to why that's a product that you didn't find acceptable.

MR. WESTLIN: We must talk on what it is.

30 You are talking of asbestos-reinforced plastic flooring generally, not with an asbestos backing?

5 MR. HARDY: Well, as I understand it there are two different types of flooring.....asbestos-vinyl tile, which has asbestos mixed throughout, and there is also asbestos-backed sheet flooring where the asbestos is only on the bottom layer.

MR. WESTLIN: Yes. There is, of course, also the combination.

MR. HARDY: Okay.

MR. WESTLIN: That is both.

10 MR. HARDY: Are any of those types of asbestos flooring allowed to be marketed in Sweden?

MR. WESTLIN: No, that's correct.

MR. HARDY: Okay.

15 MR. WESTLIN: Of course there are always borderline cases, and we had the factories in Sweden producing asbestos-reinforced vinyl floorings, in Sweden, and we had illnesses in these factories and there has also been published cases in the literature where there has been reported illnesses in the production of vinyl floorings with asbestos, in other cases.

20 So our consideration was that since there was other materials available, and since the production of these products would nevertheless necessitate the handling of great amounts of asbestos, the sound thing to do would be to ban them all.

25 Now, about the backing, the asbestos backing, of course, it will normally be very low exposure there also when you instal the carpet or the flooring, but the hazard is... and it has shown to be a practical problem also...that after some time you will have to, you will want to change the floor covering, you get tired of the color or the pattern of the flooring and you want to change it, and then it is normally glued to the floor surface below. Then you take away the
30 flooring, and in order to put in a new flooring that looks nice

MR. WESTLIN: (cont'd.) you will have to have a very smooth surface and you have to polish with some sort of machinery the asbestos that is glued to the surface, and then you create a cloud of asbestos fibers. That was the reasoning, right or wrong.

We'll have to admit that, of course, there are always border cases that could be discussed, but it has been proven that it has been possible to use other materials successfully, and without any trouble. So that has been the background for this decision.

MR. HARDY: One other area that I would like to ask you some questions about, and that's that I noticed at several points in the asbestos regulation, I believe...right, the Asbestos Ordinance Decision, tab four...there is discussion of smoking.

If we turn to page eight, section twenty-four of the Ordinance, the last line, it says:

"Smoking should be avoided when working with asbestos and materials containing asbestos."

I just am curious to know what the board has done in its activities to discourage or perhaps prohibit smoking when working with asbestos.

MR. DANIELLSON: The youth, the smoking is decreasing in Sweden...at least among the males. There has been very much propaganda against smoking.

As far as smoking at work is concerned, there has been an agreement between the two partners - you shouldn't give full prohibition, you shouldn't regulate this with regulations, because you...our legislation on worker health and safety is given to the employer and you shouldn't set that employer to supervise the employee if they are smoking or not.

The only cases where we can say it is really necessary to exclude smoking, if it's a danger for the risk of explosion, or things like that.

5 MR. DANIELLSON: (cont'd.) So we are relying on the information, and this, what we said here, is something of a recommendation. We didn't want to ban, shall we say, smoking. I'm quite sure that trade unions would have opposed such a ban.

MR. HARDY: So that you concluded that it would not have been possible, given the nature of the social agreement in Sweden, to ban smoking?

10 MR. DANIELLSON: Social agreement, of course...you can make an agreement with the workplaces, and I may say in my own administration it has been decided upon by the employees themselves - where would you like to...for instance, would you like smoking in the cafeteria, for instance...would you accept smoking in your office, and we have said we wouldn't ban smoking, but if somebody is indicating he wouldn't like smoking, everybody respects it.

15 But it is discussed. We also have had the formality of this discussion that they had a special working group with nonsmokers and smokers all together working out the program, but we always had to change the members of this committee because the smokers say they plan to be nonsmokers, so we already had this put in.

20 I have had a discussion with the head of my research department, who was a great smoker earlier, and he said...and I tried to explain to him that he should stop smoking, but he said that smoking is good for the intelligence. What should I say?

25 MR. HARDY: This is your research director?

MR. DANIELLSON: You know, at the time I am not smoking, so I could only accept that.

DR. DUPRE: I might say that the chairman of this Commission agrees entirely with your research head.

30 MR. HARDY: Beyond the question, though, of prohibiting smoking, is your board at all active in programs

MR. DANIELLSON: Yes. We do, in co-operation with the Central Medical Board. The Central Medical Board, National Medical Board, is also responsible for information in industry, and we co-operate with them.

And there are, of course, a lot of movements going on, and of course we are anxious, in connection with regulations such as this and others, to give such information.

Also, I would like to stress that those regulations are not the only wordings that are distributed. We also make summaries and send out to workplaces. In fact, in seven languages because we have a lot of immigrants in Sweden, and we have such summaries in a lot of European and North African languages, but not in English, in fact, that kind of summaries.

We give this information and then we try to inform that they shouldn't smoke.

MR. LINTON: Smoking is a general health problem for the entire population, and it is mainly a question for the Minister of Social Affairs, and she has been trying to put forward a bill which should ban smoking in all official buildings. But she hasn't succeeded.

MR. DANIELLSON: When I was in the Ministry of Social...Health and Social Affairs, both the minister and the secretary of state were great smokers, and they have both resigned now.

MR. HARDY: I guess I was particularly curious about smoking with respect to asbestos, because I guess we all know smoking is particularly hazardous for asbestos workers, and vice versa...asbestos is particularly hazardous for smokers.

I wonder if you had any special programs oriented toward those workers who, in Sweden at least, would primarily have been exposed to asbestos in the past?

MR. DANIELLSON: We have made examinations, and it is recognized to be a hazard to health.

5 MR. WESTLIN: We have carried out a nation-wide survey for health control of former asbestos workers, and we allow everyone who thought he had been exposed to asbestos to come to the doctors and be examined, and most of these people, of course, had very little exposure but were just anxious to be controlled.

10 But one big advantage with that survey was that they had a possibility to have a discussion with the doctor about the quantitateness of the hazard, so that they got satisfied with the situation, and they also had very carefully put forward advice as to the smoking problem.

15 I want to point out again that about sixty thousand people were connected in that manner, and of course that program is now continued on a more regular basis, so as soon as people come in to the medical service in the companies and have contacted their doctors, they are then having new advice as to the necessity to stop smoking when you work with asbestos...as when you work, of course, also with a lot of other substances, although I admit to you that it's more clear than in most cases, in the case of asbestos, but it's valid also for diesel exhaust, with arsenic, and...

20 MR. HARDY: Right.

MR. WESTLIN: ...a number of other substances.

MR. HARDY: Thank you, gentlemen.

25 DR. DUPRE: Thank you, Mr. Hardy.

Miss Jolley?

CROSS-EXAMINATION BY MISS JOLLEY

30 MISS JOLLEY: I think you've covered most of my questions. John managed to take over many of my interests.

I would like to just deal a little bit in more detail with the whole consensus aspect of the standard setting,

MISS JOLLEY: (cont'd.) because I think this is an important difference between Sweden and Ontario, and the United States, in the sense that the actual development of the standard...and you said this morning that you had L.O. representatives and S.A.F. representatives right on your criteria committee. I think that's a very interesting phenomenon, because it certainly would lead down the way to less conflict.

MR. DANIELLSON: As I mentioned, we had the social party represented not only in my board, in my direction, but also in the labour inspection regional boards, so to say. They have all taken part in decisions.

But when preparing a regulation, first I would say we have permanent contacts with the social partners, with special unions and so on, depending on the specialties, with Arne Westlin himself and his collaborators. When you are to issue a new regulation, we normally start at working level. There we discuss with representatives for the social partners...for industry, for instance. After it has been drafted, a proposal, it is sent out for written hearing to L.O., and others organizations for sight. When these remarks are coming back, they are prepared in the board and the next stage is the board making its decision. That is prepared by our civil servants within administration, and in the board, where we make the final decision, there are, as I said earlier, representatives from both labour market parties.

The interesting thing is that it may be, although there have been all these contacts, just at the last stage there may be a lot of changes...a lot have been, at least, in this asbestos case.

But we all design this together with the parties.

MR. ETTARP: I think from the government point of view it's an advantage to have this present system because

5 MR. ETTARP: (cont'd.) when the social partners have to take part in the process of the board when they shall develop a new standard or regulation, they have to discuss, in fact they have to negotiate, if we should be responsible for the whole affair in the ministry.

10 We have a person from the conservative and liberal government, and five from the L.O. and the T.S.U. side, and it should have the opposite...employers' considerations... five on the government...so I think we should have a much harder job to find a consensus than we have today when the board themselves can take the whole thing.

15 MISS JOLLEY: In the asbestos regulation, if you grant permission to an industry to use asbestos, is there a sunset clause or...I mean, do you reconsider that permission if in fact a safe substitute comes forward for that particular use?

20 MR. DANIELLSON: We always reconsider our regulation, one day to another would be to say too much, but if something happens we have to consider it immediately and we can take action very rapidly...in fact, maybe in some cases in one week.

What we have to reconsider, we do permanent in such a limit value...that is reconsidered every second year. We will have a new one in this year.

25 You mean...if you mean special permission that you will maybe give in the future?

MISS JOLLEY: Right.

30 MR. DANIELLSON: I think that we will set for most cases a time limit. That depends very much on the kind of permission. Those cases I've already met, there I'm asked about some transitional use. Most of it I've seen, to today.

MISS JOLLEY: The last area of questioning I would like to ask about is really the working environment agreement

MISS JOLLEY: (cont'd.) between the social parties,
and one of the things that we also found interesting...I spent
5 a week in Sweden as a guest of the Industrial Safety Council last
fall...and I visited the board, but as well as that I visited
the Printers Medical Service there, and I think the interesting
thing about the company health services there is the health and
safety committees control, essentially, over the health services,
and in fact the selection of the doctor and the safety engineer,
10 and I think...while that is an agreement rather than a
legislation, I found that an interesting thing, and it seemed to
relieve a lot of the hostility that people feel towards company
physicians in the sense that they are not employees of the company,
even though they are paid by the company.

15 MR. DANIELLSON: It is stressed very strongly by
the workers that we should have this in plants. They don't
misbelieve, so to say, the doctors in this case.

MISS JOLLEY: Thank you very much.

DR. DUPRE: Thank you, Miss Jolley.

20 CROSS-EXAMINING BY MR. EDWARDS

MR. EDWARDS: There is one line of questioning
that Miss Jolley was pursuing at the very beginning which I would
like to pursue a little further. The question is the consensus
which you seem to have in your country, versus what might be
categorized as the adversarial process which certainly exists
25 in the United States and exists to a lesser extent in this
province, in terms of finding your guidelines and determining
criteria.

30 What is it in Sweden, if you can answer this
question, that allows consensus approach to work as
well as it does, and necessitate, perhaps, the adversarial
process here in Ontario and in the United States?

MR. ETTARP: I think it is partly our history. The first general agreement between the social partners was signed in 1906, something like that. I think also an important factor is the high level of unionized people in the labour market, and the fact that employers also are organized...most of them are organized...and it's always much easier to discuss between two central parties than with a lot of groups of employers and individuals and many unions. And we have a principle which says we shall have one union, one blue-collar union and one white-collar union in each factory, so we have not the anguishes.

So you have rather few people and they are often friends and they know exactly what the problem is, and the unions know very well, thanks to the legislation and agreements, how the position of the company is, what costs can it bear, what costs can it not bear. So I think a high level of union, of members in unions, it's an advantage if you shall work in the safety and health area.

MR. EDWARDS: One area that I believe Mr. Daniellson touched on this morning is the inspectorate division of your boards. I'm not sure that you dealt, whether it was purposely or not I don't know, with the questions of sanctions that the inspectorate has when they discover situations which require some remedial action. I wonder if you could perhaps elaborate on that.

MR. DANIELLSON: They can give citations. That would be they could halt the work, say that it couldn't go on in this condition. They could also say that you can only continue if you do so or so.

Normally it's not the personal inspector who can make these citations. These are decided upon by the board. Then when it is a shorter time, pending decision by the board, he could make it himself, if it's a very risky job.

MR. EDWARDS: And if the board gives a citation does the offending party have an opportunity to appeal that decision?

MR. DANIELLSON: Yes, it can appeal to us, first to the board, and from the board to the government.

MR. EDWARDS: From the government is there a right of appeal to a judicial system?

MR. DANIELLSON: No, no. Only administrative system. Nothing goes to Supreme Court, something like that.

We have nothing to do in this way with the general courts, with the court and so on. If the enterprise doesn't follow this citation, then you can lead this case to the central court, to the general attorney to bring it for penalty.

MR. EDWARDS: One point you dealt with and made us quite certain of this morning, is the independent nature of your board. One of the documents which you handed out just after the break at lunchtime was a document prepared, it looked like, by the work environment department of the Ministry of Labour.

Page two of that department (sic), there is a reference made to the fact that the government can exercise certain control, mainly by issuing general guidelines and controlling the budget.

I was wondering, does the government give you any guidelines, to your board, in terms of the scope of your responsibilities, beyond what is set down in the Act?

MR. DANIELLSON: I could say the general frame of guidelines are given in the Work Environment Act by parliament after proposal from the government. The government also can issue special regulation provisions regulating a job. It has not done so very much.

It also can give, of course, in connection with the budget, it can describe things like this or that.

MR. DANIELLSON: (cont'd.) Yes, it would say so.

5 MR. EDWARDS: Have you ever had the experience where the control of the purse has affected your ability to carry out your responsibilities?

Perhaps I can...

MR. DANIELLSON: Can you repeat that for me?

10 MR. EDWARDS: Yes. Have you ever had the situation where the government, by restricting your budget, has affected your ability to carry out responsibilities?

15 MR. DANIELLSON: Yes. They are not our responsibilities, maybe, but our possibility to carry out our responsibilities in a good way. They just now are reducing our budget two percent a year, inspite that when the new Work Environment Act was passed everyone said we have to continue to build up out organization.

20 Now, on the other hand, I think we have been very favourably treated during the seventies, so many other central boards in Sweden are very envious of our organization because it is unanimously accepted that we should pay much attention to work environment. So I am not so...I would not... when I'm here, I'm not so very disappointed. I am more disappointed when I am at home, maybe.

25 MR. ETTARP: I should like to comment on that, because the Board of Occupational Safety and Health is one of the one hundred and fifty boards in Sweden, I think, and all of them got minus two percent last year.

But we, my department, gave Gunnar some extra money from the fund, so he is in a better position than most of the other agencies.

30 MR. EDWARDS: This fund is the working environment fund you are referring to, is that right?

MR. LINTON: Yes.

MR. EDWARDS: Would it be fair to say, though, that this cutback, with inflation, obviously it's going to be troubling more than two percent.

MR. DANIELLSON: Yes. It is in fact three or four percent a year.

MR. EDWARDS: Would it be fair to say that the cutting back of your budget will affect your ability to conduct research?

MR. DANIELLSON: Yes, it will, yes. Of course, the research has some possibility to go directly to work environment fund, so to say, to fill up the gap.

MR. EDWARDS: One question that I suppose almost more for personal interest as anything else, as a lawyer, the appeal procedure which seems to be in place is from the board to the government?

MR. DANIELLSON: Yes.

MR. EDWARDS: Is there some reason why it's not from the board to your courts?

MR. DANIELLSON: Yes, I could say maybe it has something to do with the special nature of this method. They are really nearly connected to political pressures, of course. It's not so far away. And I think that our courts, our general courts, are not where we keep maybe this...there was a discussion when this new Act was introduced whether you should not use the normal supreme court, but it was decided upon that the government would have the last word, and it has something to do also, of course, with the costs following out of our decisions. It has something to do with the legislation.

MR. ETTARP: Yes, but if safety delegates have stopped a job then the labour court can in the end decide if the employees should have earnings during the stop or not. It depends on the situation, if it is misused or not.

MR. DANIELLSON: But this is a fairly new decision.

5 MR. ETTARP: But I have written a little book about the Work Environment, but unfortunately it is in Swedish. But you can see how much more money government has got during the seventies, and ...

MR. DANIELLSON: As you see, the pages are very small.

10 MR. ETTARP: And I can show you the number of employees, too.

MR. EDWARDS: Mr. Ettarp, you made a comment this morning and if I can summarize, I think you said the reason why...perhaps one of the reasons that you have been successful with your policy is that you have it out of the political arena.

15 MR. ETTARP: Yes.

MR. EDWARDS: I'm just referring again to the document which was handed out before lunch, on page five of which, near the bottom, it says:

20 "The government's opinion is the board has succeeded in making decisions unswayed by temporary currents of opinion, and characterized by a sense of technical and social development and consideration for the justifiable interests of the social partners."

25 I was just wondering if you could comment on what role you see public opinion playing in the development of policy in this area.

30 MR. ETTARP: Of course, we are living in a democracy, and public opinion must, and should have, I think, have an influx on what agencies are doing. But I think they are doing that indirectly, so to say, through the L.O. and T.S.U. and the S.I.F., which is the employers confederation, and that's

MR. ETTARP: (contd.) the way it works.

For example, when you are discussing asbestos

5 I think the general level of knowledge in the Swedish society today is so very high, so it's impossible to do something which would go against the level of knowledge, so to say. You know what I mean.

I mean, we have the case in the Stockholm underground. It could be wrong, it could be right, but the politicians in Stockholm which is dealing with problems in the general
10 employment must react on the general opinion, of course.

But I think in a board like the Board of Occupational Safety and Health, you can't plan from day to another. You must have a long-term plan, and therefore it's our point to try to keep it out of the hot air in the Ministry of Labour, and let them work in a most peaceful atmosphere, and let the social
15 partners take part of the burden.

MR. EDWARDS: Mr. Daniellson, if I understand correctly, your board is made up of representatives of labour, management, members of parliament and members of your own board?

MR. DANIELLSON: We have two members, yes.

MR. EDWARDS: I'm sure there must be times when contentious points arise within these various groups that sit on your board, and I was wondering if you could just give us the benefit of your experience as to how these contentious points are resolved within your board?

MR. DANIELLSON: I think...we are happy to be able to say that we discuss, many times very hard matters, but we very seldom have different opinions which will come to an end. At least we accept the other opinions, and then we speak to a decision. But we have very useful discussions before we make a decision.

MR. EDWARDS: In those situations where you are not able to reach a consensus, what happens then?

5 MR. DANIELLSON: Yes, there will be, if the minority has to, of course, to accept, can make their reservations, that what is decided is decided upon...as with parliament and all the other bodies.

MR. ETTARP: Here I can show you the number of employees in the general board from 1949 to 1980.

MR. DANIELLSON: And they are working far much better, of course.

10 MR. EDWARDS: One thing that interests me from your comments this morning, and from my reading in preparation for this hearing, is the use of the committees at the plant level. How successful have those committees been in regulating the safety and occupational health of the workers?

15 MR. DANIELLSON: I think very successful in big companies. They have high confidence and make a lot of good things, so I think it's a very useful part of our, so to say, our total system.

20 MR. EDWARDS: Have you had the feeling that, in situations, the committees have not been successful and the board has had to step in, or the inspectors have had to step in? Is there any particular area that you feel that these committees have not been successful and government intervention has been required?

25 MR. DANIELLSON: I would like speak about areas and say in pragmatic experience we have no such cases, but of course it happens, of course, that they cannot solve the problem and of course that would be the labour inspection. There is still a duty.

MR. EDWARDS: Do the committees have the authority to close a plant down?

30 MR. DANIELLSON: Of course. We have.

MR. EDWARDS: No, I understand you do. But do the

MR. EDWARDS: (cont'd.) committees at the plant level have that authority?

5 MR. DANIELLSON: No, no. Of course the manager himself has the authority.

MR. EDWARDS: An area that Mr. Laskin was dealing with this morning was the control of asbestos at construction sites. I believe the evidence was that if possible, perhaps maybe I'm one step ahead of myself, but in areas...if I can just deal with the question of public buildings and leave construction sites out for a second...but public buildings, I believe the evidence was if possible you prefer to leave the asbestos in the buildings rather than to take it out.

MR. DANIELLSON: Yes.

15 MR. EDWARDS: In those situations when you do have to take it out...well, perhaps first of all, what are the situations when you have to take asbestos out of a public building?

MR. DANIELLSON: I think such a case is where it causes problems because there is dust coming out from it. Of course, you can decide as owner of this building, for some reason, maybe political reasons, so to say, because it has got to come, then the problem is that we take very hard precautions, preventions, for the workers. They have to wear respirators and things like that.

MR. EDWARDS: Do you have a program set up to locate buildings where there is asbestos?

25 MR. DANIELLSON: Not much for asbestos. It is indicated how to carry out this kind of work. Not so much for these cases, but when you demolish them and so on.

MR. EDWARDS: When you do, when you have been notified that there is asbestos in a public building, what happens then?

30 MR. DANIELLSON: When you have...you mean from

MR. DANIELLSON: (cont'd.) what point of view?

MR. EDWARDS: Well, if somebody came to you and
5 said, we've located some asbestos in our school, for instance,
what would be the process then in deciding whether you are going
to take it out or whether you are not going to take it out?

MR. DANIELLSON: From my point of view, my approach
would be if there is something from the point of view of the
10 employees at that school, that we have to be concerned about,
and we will refer it at this time, if it would be an employee,
to take this contact to the safety committee, and so on.

MR. ETTARP: You have safety delegates in the
schools, too, and the teachers, so that's the way you can solve
the problem. And they can stop the...

MR. EDWARDS: I take it one of the most important
15 aspects of the success of your program in Sweden has been the
training and education not only of people at your level, but
also of everybody in the work force. Has it been your experience
in the last ten years that the availability of funds for
research and funds for training people has increased, or has it
20 decreased?

MR. DANIELLSON: It has increased during the
last years, tremendously, through this work environment fund.

MR. ETTARP: But the payroll tax is the same, so
in real terms it is roughly the same as it was.

MR. EDWARDS: Is there a body in Sweden which has
25 jurisdiction to deal with questions of compensation for workers
who have suffered an injury on the work site?

MR. DANIELLSON: Yes, for compensation. Yes.

MR. EDWARDS: Or who would be suffering from a
disease which is related to his work?

MR. DANIELLSON: Yes. Everybody is covered.
30

5 MR. EDWARDS: Is there a liaison between your body and the body which deals with compensation?

MR. DANIELLSON: No. In fact not, because we have to see to it that people don't need this compensation.

But, of course, what the statistics is about...we rely on the primary figures from the insurance as base for our statistic records for occupational accidents.

10 MR. LINTON: I have a little pamphlet here in English, from the Ministry of Social Affairs, concerning work injuries insurance in Sweden, which I can leave behind.

MR. DANIELLSON: But there is a very special...in fact, I worked ten years with social security matters....it means the health earlier...in fact I have some interest in these matters.

15 MR. EDWARDS: Thank you very much, gentlemen.

DR. DUPRE: Mr. Starkman?

CROSS-EXAMINATION BY MR. STARKMAN

20 MR. STARKMAN: I understand that people have commitments. Being four-thirty, I just have a couple of very brief questions on the compensation aspect. Is that funded through government revenues or by a levy on employers?

MR. DANIELLSON: It is...the compensation?

MR. STARKMAN: Yes.

25 MR. DANIELLSON: It is based on the revenue of the employee. They are guaranteed since they become disabled to keep that income.

MR. STARKMAN: Yes, and it's paid for by the employers?

30 MR. DANIELLSON: Yes, of course. By the employers totally. There is no contribution from employees in Sweden in any social security.

MR. ETTARP: But it is a part of the social

MR. ETTARP: (cont'd.) security system.

MR. STARKMAN: Yes, I understand.

5 But if an employer has a very high accident record, either from asbestos or any other cause, is there a punitive levy placed upon them, or is there any control at that level?

MR. DANIELLSON: We don't have any influence on the contribution they have to pay. They all make the same contribution.

10 MR. STARKMAN: Okay. Now, in a plant where they are working with asbestos and the standard is one fiber per million, who does the measurement of that fiber? Who does the fiber count?

15 MR. DANIELLSON: It would be, for instance, the occupational services, but also the labour inspection makes the measurements and analyses are carried out to a great extent at our research department.

MR. STARKMAN: So the government, or the board...

MR. DANIELLSON: Yes. The board...we have in our research department, we also have...

20 MR. STARKMAN: If the count was above the one fiber, then what...would there be a penalty or a citation, or...?

MR. DANIELLSON: Not a direct penalty. It would have to an action, it would be a citation. Of course, the labour inspection would take a discussion with this employer and, of course, safety committees and so on, to get them to change.

25 If they don't follow up, it could be a citation and it could mean that they would close, for instance, shut down.

MR. STARKMAN: Employees who are working with asbestos, are there medical files kept of those employees?

MR. DANIELLSON: Yes.

30 MR. STARKMAN: What about in the construction area, if they are working with asbestos? Is there an effort made to

MR. STARKMAN: (cont'd.) keep track of those employees who might go...

MR. DANIELLSON: They are covered.

MR. STARKMAN: They are covered, but are there medical files kept for them?

MR. DANIELLSON: Yes, it is.

MR. STARKMAN? And they are kept by the board?

MR. DANIELLSON: No. By the Occupational Health Services.....and in principle by the enterprise, but in this case by the Occupational Health Services for contact in...

MR. STARKMAN: And that file sort of follows a person through their working life, so you know what their exposure has been at various...?

MR. DANIELLSON: If you are still in the same branch, it could follow. But there is a problem to have this personal attachment, so to say.

MR. STARKMAN: There is a problem with people who are moving, is there not?

MR. DANIELLSON: Yes, there is. We haven't quite solved. There's many problems we haven't solved yet.

MR. STARKMAN: Those are my questions. Thank you.

DR. DUPRE: Thank you.

Well, I'm mindful that you are due to catch a six o'clock plane to Frankfurt, so my colleague and I will forgo any more questions, but may I please, Mr. Westlin, Mr. Daniellson, Mr. Ettarp, Mr. Linton, thank you, all four, so very, very much for spending this day with us. Thank you indeed.

MR. DANIELLSON: Thank you very much. It was a great pleasure to us. We appreciate very much to come here.

THE INQUIRY ADJOURNED

THE FOREGOING WAS PREPARED FROM THE TAPED RECORDINGS OF THE INQUIRY PROCEEDINGS

Edwina Macht
EDWINA MACHT

